E-ISSN 2319-7560

INTERNATIONAL JOURNAL OF SCIENCE AND ENGINEERING APPLICATIONS

Volume 12, Issue 6 : June 2023

Publisher
Association of Technology and Science

www.ijsea.com

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 01 – 09, 2023, ISSN:- 2319 - 7560
DOI: 10.7753/IJSEA1206.1001

Safety Challenges and Analysis of Autonomous Electric Vehicle Development: Insights from On-Road Testing and Accident Reports

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Abstract: **Autonomous electric vehicles** (AEVs) hold great promise for the future of automotive engineering, but **safety** remains a significant **challenge** in their development and commercialization. Therefore, conducting a comprehensive analysis of AEV development and **reported accidents** is crucial. This paper reviews the levels of automation in AEVs, their disengagement frequencies, and on-road accident reports. According to the report, numerous manufacturers thoroughly tested AEVs across a distance of more than 3.9 million miles between 2014 and 2022. Disengagement frequencies vary among manufacturers, and approximately 65% of accidents during this period occurred while AEVs were operating in autonomous mode. Notably, the majority of accidents (90%) were caused by other road users, with only a small fraction (~8%) directly attributed to AEVs. Enhancing AEVs' ability to detect and mitigate safety risks from external sources has the potential to significantly improve their safety. This paper provides valuable insights into AEV safety by emphasizing the importance of comprehensively understanding AEV development and reported accidents. Through the analysis of disengagement and accident reports, the study highlights the prevalence of passive accidents caused by other road users. Future research should concentrate on enabling AEVs to effectively detect and respond to safety risks originating from external sources to enhance AEV safety. Overall, this analysis contributes to the ongoing efforts in AEV development and provides guidance for strategies aimed at improving their safety features.

Keywords: autonomous electric vehicles; safety; accidents; road testing; autonomous mode; EVs; AEV; AV

1. INTRODUCTION

Autonomous driving technology has come to light as a possible option as society places more emphasis on minimizing traffic accidents, congestion, energy consumption, and pollutants. Autonomous electric vehicles (AEVs) equipped with advanced technologies can assist or operate independently, reducing the need for human intervention in vehicle control. The level of automation in AEVs determines whether control decisions are made by a human driver or an autonomous system based on the vehicle's capabilities and the surrounding environment. Implementing autonomous technology in transportation systems offers significant opportunities to address economic and environmental challenges. AEVs can enhance road safety by minimizing human errors that contribute to the majority of accidents. They also improve commuting by allowing occupants to engage in other activities and optimizing traffic paths and parking. AEVs promote mobility for individuals with disabilities, reduce the burden on mass transit, alleviate congestion, save fuel through efficient fleet management, and reduce stress for commuters. Additionally, they have the potential to save energy, decrease emissions, and positively impact pavement sustainability by minimizing crashes and optimizing vehicle operation [1].

The development of AEVs has been driven by the potential benefits of autonomous technology. Research has evolved from infrastructure-centered to vehicle-centered approaches, involving private companies like Google, Audi, Toyota, and Nissan. Road testing of AEV technologies has gained momentum, with features like lane-keeping, collision avoidance, and adaptive cruise control already implemented. However, safety concerns prevent the full commercialization of fully autonomous vehicles. Optimism about AEV safety varies across demographics and countries, and addressing safety risks and human factors in vehicle-human interaction is crucial. Regulations must adapt to technological progress [2]. A thorough understanding of automation levels, incidents, and on-road testing status is required to progress AEV technology. Conducting a thorough investigation into AEV-related accidents and predicting potential accidents as AEV technology advances is crucial. While significant efforts have been made in AEV technology development, a comprehensive statistical analysis of safety issues is lacking. Understanding system failures and causes through critical analysis is essential for AEV design and development. This study aims to systematically analyze safety issues in autonomous technology for vehicles, providing valuable insights to stakeholders and advancing AEV technology.

2. DEGREE OF AUTOMATION

To minimize the impact of autonomous electric vehicles (AEVs) on traditional road users, such as vehicles, pedestrians, bicyclists, and construction workers, regulators need to establish a clear definition of AEVs. As mentioned earlier, the level of automation in AEVs is determined by factors like the complexity of the autonomous technology used, the range of environmental perception, and the involvement of human drivers or vehicle systems in making driving decisions. These factors directly impact the safety of AEVs [3]. This section provides a summary and comparison of different organizations' definitions of automation levels. The classic concept of automation levels specifies ten stages of automation based on the responsibilities of human operators and vehicle systems in the driving process. It was first put forth by Sheridan and Verplank in 1987 and then amended by Parasuraman et al. in 2000. Level 1 denotes complete human decision and action-making with no automation. Alternate decisions or action plans may be suggested by the system in Levels 2 to 4, but human supervisors must determine whether to follow them or not. As

of Level 5, the system can carry out decisions with a human operator's consent [1].

Level 6 offers the human driver a restricted period of time to respond before taking autonomous action. Level 7 alerts the human supervisor following an automatic action, but Level 8 only provides information upon request. Level 9 is concerned with the system determining whether to notify a human supervisor following an automatic action, whereas Level 10 involves complete automation that ignores human variables. There are further resources where you may learn more about these ten levels of automation. The aviation engineering framework Pilot Authorization and Control of Tasks (PACT) includes six degrees of automation. According to this hypothesis, systems at Level 5 can run completely autonomously but can still be overridden by a human pilot because Level 0, which denotes no computer autonomy, is still feasible. Furthermore, depending on how human pilots and technologies interact operationally, the PACT framework proposes four aided modes. More information on these six levels can be found in the mentioned source [1, 4].

The National Highway Traffic Safety Administration (NHTSA) of the United States has set up a hierarchical framework with five levels to classify automation in the field of car engineering. The numbers from 0 to 4 are used to name these stages. Level 0 cars don't have any kind of technology, so the driver is in charge of everything. Level 4 is the highest level of automation [5]. This is where self-driving cars can watch their surroundings and do all the important driving tasks on their own. Level 3 means that the car can drive itself some of the time, but the driver can still take control in certain situations. Most ongoing projects to build self-driving cars are in line with Level 3. The Society of Automotive Engineers (SAE) is the most trusted source for widely used meanings of terms related to automated driving. The SAE standards have been taken on by NHTSA, and they are regularly updated. SAE divides the levels of automation in cars into six groups based on how much human participation is needed by the automation system. These levels range from 0 (no automation) to 5 (full automation), with 0 being no automation and 5 being full automation. These rules are often used by regulators, lawmakers, and automakers in their work.

The different levels of automation are based on how the automation system and human drivers work together to handle steering, throttle control, monitoring the environment, falling back to dynamic driving tasks (DDT), and the system's ability to switch between different autonomous driving modes. Levels 0 to 2 depend on human workers to do some or all of the dynamic driving tasks (DDT), while Levels 3 to 5 show conditional automation, high automation, and full automation, respectively. These higher levels show that the system can handle all dynamic driving tasks (DDT) on its own while it is in action. The Society of Automotive Engineers (SAE) came up with a definition of car automation levels that is widely used [2, 3, 4, 5]. It is as follows:

A. Level 0 (No Automation): All driving jobs are done by the human operator alone.

B. Level 1 (Driver Assistance): The human driver is in charge of the car, but the automation system helps him or her drive.

C. Level 2 (Partially Automated Driving): The vehicle has a combination of automated functions, but the driver is still in charge of keeping an eye on the surroundings and keeping control of the driving process.

D. Level 3 (Conditional Driving Automation): The human driver must be ready to take charge of the vehicle if needed since the automation system can handle driving in some situations.

E. Level 4 (High Driving Automation): The automation system can drive the car on its own in certain situations, but the human driver may still be able to take over if they want to.

F. Level 5 (Full Driving Automation): The automation system can drive the car on its own in all situations, but the human driver can take over if they want to.

Different groups' definitions of automation levels show that the roles of human drivers and vehicle systems can change in driving. This shows that safety concerns for partly autonomous, highly autonomous, and fully autonomous vehicles can vary a lot. When autonomous cars have different levels of automation, like none, some, or a lot, it's hard to make sure they're safe because people and machines have to work together. On the other hand, when AEVs are operating in fully autonomous states, the software and hardware must be very reliable. As cars add more self-driving technology, the complexity of the self-driving system grows. This makes it harder to keep the system stable, reliable, and safe. To figure out how safe AEVs are now and how safe they will be in the future, it is important to do theoretical studies of possible AEV mistakes [3, 5].

3. CATEGORIES OF ERRORS IN AUTONOMOUS ELECTRIC VEHICLES

As the utilization of autonomous techniques increases, the likelihood of encountering various error types rises. Inadequate handling of these errors can give rise to substantial safety implications. Undertaking a systematic analysis of errors and accidents associated with autonomous electric vehicle (AEV) technology is imperative to gain insights into the current state of AEV safety. It is important to note that the reported incidence of accidents involving AEVs is considerably lower than that of traditional vehicles. However, this discrepancy does not inherently imply that current AEVs are inherently safer than human-controlled vehicles. Since AEV technology is still in its nascent stages of commercialization, and complete autonomous driving capabilities remain distant, conducting additional road tests and developing comprehensive accident databases are necessary to achieve a more comprehensive understanding of safety trends [6].

AEV safety hinges on the dependability of the AEV's architecture, encompassing its hardware and software components. However, the architecture of AEVs is intricately linked to the level of automation, thereby resulting in potential variations in AEV safety profiles at different stages of automation. Furthermore, even within the same level of automation, discrepancies in AEV architecture can be observed across different studies. Figure 1 depicts the overarching architecture and key constituents of AEVs. Typically, an AEV consists of a sensor-based perception system, an algorithm-based decision system, an actuator-based actuation system, and interconnected systems [7, 8]. In an ideal scenario, all these components should operate effectively to ensure AEV safety.

3.1 Accidents Directly Caused by AEVs

The occurrence of accidents involving autonomous electric vehicles (AEVs) is intricately connected to the occurrence of errors at different levels of automation. These errors can be

systematically classified based on the aforementioned architectural framework [5, 7].

3.1.1. Perception Inaccuracy

Collecting data from multiple sensing devices is essential for the perception layer to comprehensively understand the environment and make real-time judgments. The development of autonomous electric vehicles (AEVs) relies heavily on the sophistication, reliability, utility, and complexity of sensor technologies. AEVs utilize various technologies, such as LIDAR sensors, cameras, radars, ultrasonic sensors, touch sensors, and GPS, to perceive and interpret their surroundings. Additional information on different sensor systems can be found in other sources [5, 9]. It is crucial to note that a lack of awareness regarding road conditions, the location and movements of other vehicles, traffic signs, and potential hazards can lead to safety challenges.

Figure 2 illustrates the evolution of sensor technologies used in automotive systems over time [5]. This statistic stems from the previously stated sources. Proprioceptive sensors such as wheel sensors, inertial sensors, and odometry were widely used in vehicle systems in the latter half of the twentieth century to improve vehicle dynamics stability and enable functionalities such as traction control, antilock braking, electronic stability control, antiskid control, and electronic stability programs. In the early twenty-first century, exteroceptive sensors such as sonar, radar, LIDAR, vision sensors, infrared sensors, and GPS became more common. By providing navigation help, parking assistance, adaptive cruise control, lane departure warnings, and night vision capabilities, these sensors sought to improve driver information, alarms, and comfort [10].

electric vehicles (AEVs) are prone to perception errors due to concerns related to their hardware, software, and communication systems [11].

The perception system heavily relies on sensing technology, and faulty sensors or equipment can result in incorrect perception. A sensor failure or degradation can lead to significant misinterpretations, confusion in the decision-making process, and hazardous driving situations. Therefore, ensuring the dependability and fault tolerance of sensor technology is crucial [5]. Additionally, perception errors can occur when software faults deliver inaccurate information to the decision and action levels, potentially resulting in mission failure or safety issues.

As AEVs become more automated, communication errors become increasingly dangerous. These issues can arise from AEVs communicating with the internet, other vehicles on the road, and infrastructure [5, 7]. Communication plays a vital role in today's transportation system [6] by facilitating the coordination of all road users, including cars, pedestrians, cyclists, and construction workers, to ensure road safety, which is crucial for AEVs. Communication methods encompass gestures, facial expressions, and in-car electronics. However, the interpretation of these communications can vary based on cultural norms, context, and individual experiences, posing challenges for AEV technology [5, 6, 8].

3.1.2. Decision Inaccuracy

The decision layer plays an essential role in examining the processed data from the perception layer, formulating decisions, and generating the necessary information for the action layer [5].

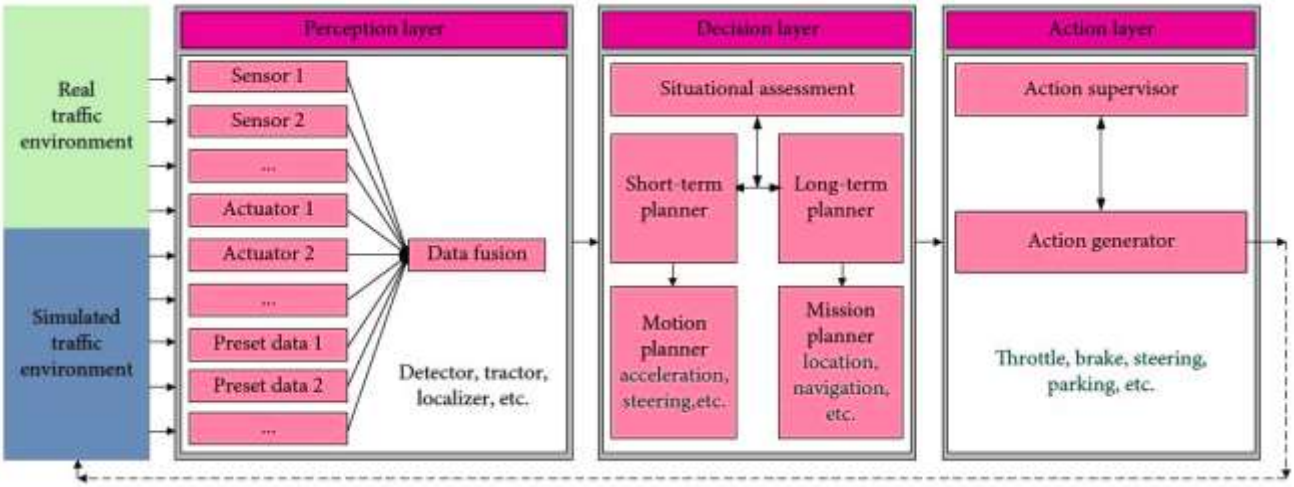

Figure 1: Illustrative Architecture for AEV System

In the past decade, sensor networks have been integrated into both roadways and vehicles within modern transportation systems, enabling automatic and collaborative driving [5]. This breakthrough paves the way for advanced autonomous capabilities like collision avoidance and minimization. Ultimately, it leads to fully automated driving, eliminating the need for human drivers. Perceived data can also be obtained through interactions with AEVs, associated infrastructure, other vehicles, the internet, and cloud platforms, depending on the level of vehicle automation. Autonomous

Situational awareness acts as an input for the decision-making system, facilitating both short-term and long-term planning. Short-term planning entails tasks such as generating paths, evading obstacles, and managing incidents and maneuvers, while long-term planning encompasses mission and route planning [12].

Inaccuracies in decision-making primarily arise from factors linked to the system or human involvement. A competent AEV system should intervene or notify the driver only when necessary, upholding a minimal false alarm rate while ensuring acceptable safety performance. With advancements in AEV technology, the false alarm rate can be significantly decreased, maintaining accuracy levels that fulfill safety requirements. However, if the algorithm fails to detect all risks effectively and efficiently, it may jeopardize the safety of AEVs. It is noteworthy that when drivers are engrossed in secondary tasks, there might be a brief delay before they can respond and regain control of the automated vehicle, introducing uncertainties to the secure control of AEVs. Unfortunately, AEV technology is not yet entirely dependable, necessitating human drivers to assume control of the driving process and oversee and monitor the driving tasks when the AEV system fails or its performance is restricted. Nevertheless, this transition in the role of human drivers in AEV driving can result in inattentiveness, diminished situational awareness, and a deterioration in manual driving abilities [5, 7, 13]. Accordingly, the design of AEVs with a human-centered perspective should address the safe and effective re-engagement of the driver when autonomous systems encounter failures.

3.2 Accidents Due to Other Road Users

Based on the reported incidents involving autonomous electric vehicles (AEVs) by the United States Department of Motor Vehicles [2, 5, 7], the majority of these incidents are ascribed to other entities on public roadways. These entities, such as motor vehicles, cyclists, and pedestrians (some of whom may be agitated or under the influence), frequently exhibit anomalous behavior that presents challenges even for human drivers. It is imperative to thoroughly investigate how advanced AEVs will react in these perilous scenarios, and it is anticipated that this technology will substantially diminish fatal accidents on roadways. However, autonomous technology is not yet fully matured to cope with highly intricate situations until specific pivotal concerns are resolved. These concerns encompass the effective identification and anticipation of hazardous behaviors stemming from other road users, as well as the accurate decision-making by the autonomous system. The proficient detection of hazards caused by other road users is pivotal for AEVs to actively make determinations and avert potential accidents. AEVs must ascertain whether they must undertake actions that might deviate from traffic regulations to prevent severe or injurious accidents.

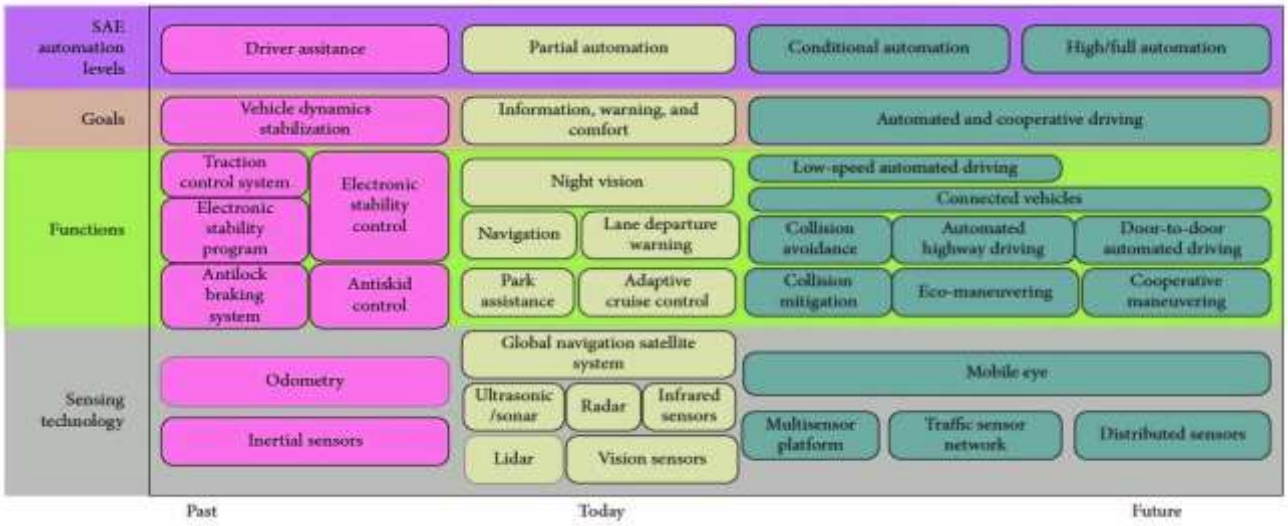

Figure 2: Past & Future Development of AEV Technology

3.1.3. Action Inaccuracy

Upon receiving instructions from the decision layer, the action controller undertakes further control of the steering wheel, throttle, or brake in the case of a conventional engine [14]. This control enables changes in direction, acceleration, or deceleration. The actuators also monitor feedback variables, utilizing this information to generate new decisions for actuation. Similar to conventional driving systems, inaccuracies in action can arise from actuator failure or malfunctions in the powertrain, control system, heat management system, or exhaust system. These inaccuracies can pose safety risks. However, a human driver is capable of recognizing such safety issues while driving and responding promptly by pulling over.

The challenge for a fully automated driving system lies in how the vehicle learns and responds to these infrequent yet critical malfunctions in major vehicular components. Consequently, the reconstruction of accidents involving traditional vehicles is also of significance [5].

4. TESTING AND REPORTING ACCIDENTS (ON-ROAD ANALYSIS)

This section focuses on analyzing publicly available data related to AEV testing, particularly disengagement and accident reports. The objective is to directly assess the safety performance of AEVs. The section explores two key data sources: the California Department of Motor Vehicles (USA) and the Beijing Innovation Center for Mobility Intelligent (China) [5].

4.1 DMV – State of California

On-road testing safety issues, like disengagements and actual-life incidents, have been documented by the state's Division of Motor Vehicles [5, 8]. This section focuses on the department's disengagement and collision reports up to April 2019, with an analysis of 621 disengagement reports from 2014 to 2018. Figure 3 displays the cumulative mileage as well as the mileage and disengagement split in California on-road AEV testing, as provided by the Department of Motor Vehicles.

International Journal of Science and Engineering Applications
Volume 12-Issue 06, 01 – 09, 2023, ISSN:- 2319 - 7560
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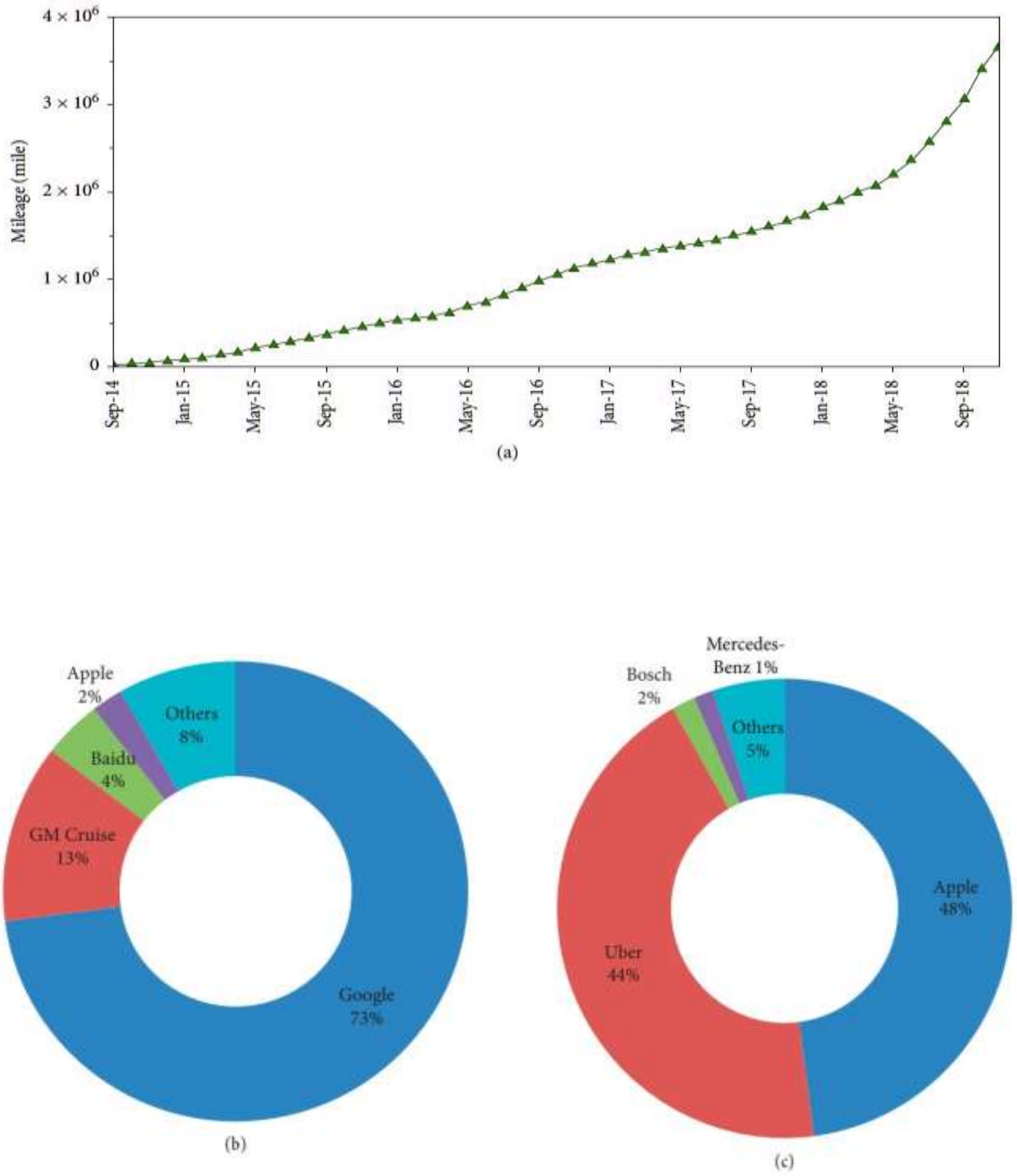

Figure 3: (a) Accumulated Distance Traveled, (b) Distribution of Mileage, and (c) Breakdown of Disengagements Across Different Manufacturers

According to a study analyzing 621 disengagement reports (refer to Figure 3(a)), autonomous electric vehicles (AEVs) in California have collectively traveled 3.7 million miles. Google leads the manufacturers in terms of autonomous driving mileage with 73%, followed by GM Cruise at 13%, Baidu at 4%, Apple at 2%, and other manufacturers at 8% (see Figure 3(b)).

Apple at 2%, and other manufacturers at 8% (see Figure 3(b)). A total of 159,870 instances of disengagement were documented, with Apple accounting for 48%, Uber accounting for 44%, Bosch accounting for 2%, and Mercedes-Benz accounting for 1%. Disengagement events are classified by Apple into two types: software disengagements and manual takeovers [5].

International Journal of Science and Engineering Applications
Volume 12-Issue 06, 01 – 09, 2023, ISSN:- 2319 - 7560
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Instead of depending only on automatic systems, AEV operators have the option of taking manual control of the vehicles when necessary [5]. Figure 3: Statistical analysis was performed on data from the California Department of Motor Vehicles between September 2014 and November 2018; data from Waymo and Google have been pooled and labeled as Google in this figure. These incidents can occur as a result of difficult driving conditions, such as emergency vehicles, construction zones, or unexpected objects on the road. Disengagements in software, on the other hand, are caused by issues recognized in perception, motion planning, controls, and communications.

If the sensors, for example, are unable to detect and track an object in the immediate vicinity, human drivers must take over control of the car. Disengagement events can also occur as a result of the decision layer's inability to generate a motion plan, or as a result of the actuator's delays and incorrect responses. It is important to keep in mind that different manufacturers may interpret disengagement events differently, which implies that reported disengagement events for some organizations may not be full [5, 8]. Figure 4 shows the link between the number of disengagements per mile and the total number of miles for different makers. Manual takeovers happen anywhere from 2 x 10^{-4} to 3 times per mile, depending on the maker. This big difference is mostly caused by differences in the amount of development of autonomous technology. But it's also possible that the way disengagements are described at this early stage of on-road testing leads to differences in how often they happen [5]. Regulators can develop terminologies for disengagement events that take into aspects like perception errors, judgment errors, action errors, system flaws, and other critical factors. These definitions will be extensively distributed.

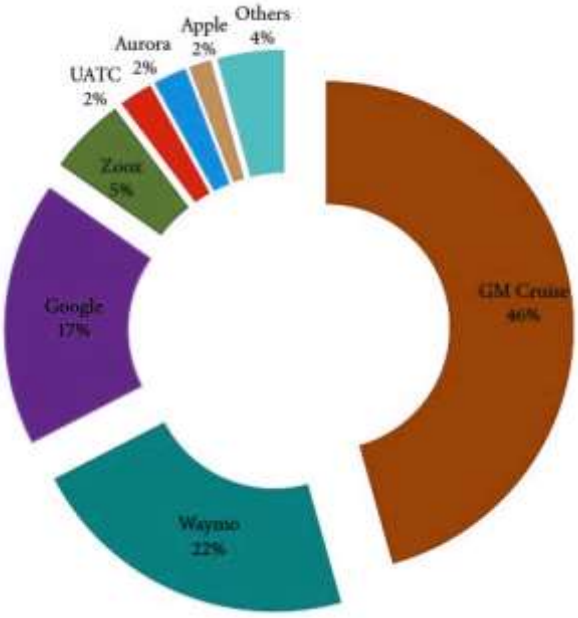

Figure 5: Distribution of AEV Accident Reports

happened when the car was being driven by a person instead of by themselves. This shows that driverless technology in AEVs needs to be tested more thoroughly on the road before it can be used everywhere. It's interesting to note that most accidents (93.7% of them) were caused by third parties like walkers, cyclists, motorcyclists, and regular cars, while only a small number (about 6.3%) were caused by the AEVs themselves [5, 15,].

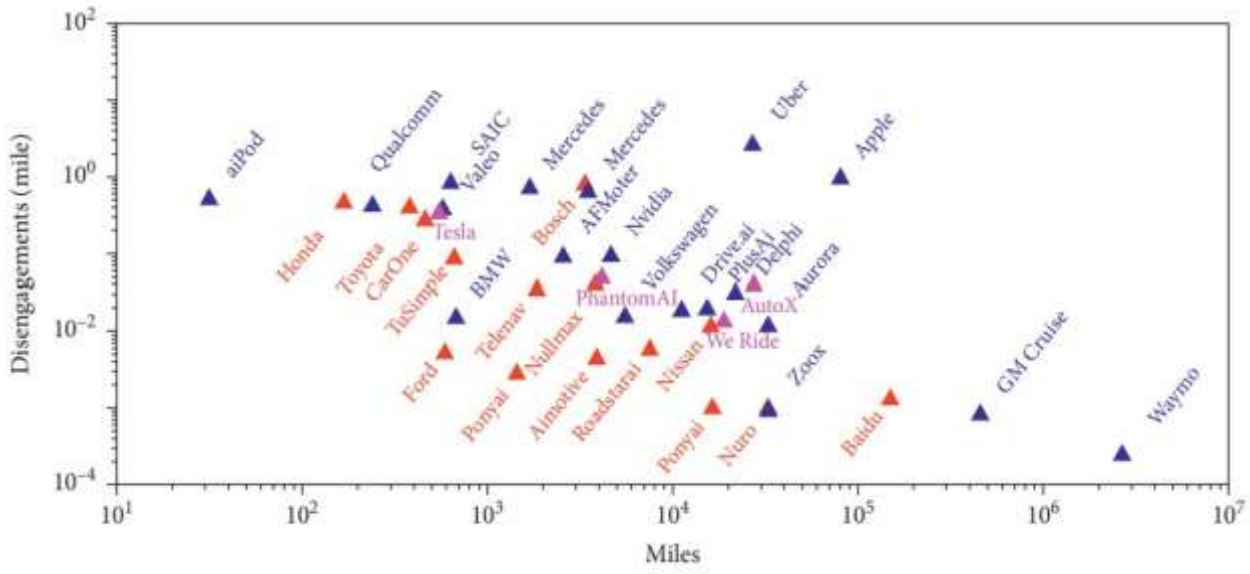

Figure 4: Disengagement occurrences plotted against autonomous miles based on reported data provided by different manufacturers

Based on Department of Motor Vehicles information, figure 5 depicts the breakdown of AEV crashes in California from 2014 to 2018. Due to a statistical analysis of 128 collision reports, 46% were triggered by GM Cruise, 22% by Waymo, 17% by Google, and 5% by Zoox. Waymo began in 2009 as the Google Self-Driving Car Project. Most of the 128 crashes that were reported during this time, or 63.3%

This shows how important it is to study how to operate AEVs in the future to cut down on passive crashes and make safety much better. Figure 6 shows the connection between reported events and the total number of AEVs tested in California. Before 2017, the number of crashes that could be reported went up by 1.7 x 10^{-5} per mile.

This was based on the total testing mileage. However, from 2017 to 2018, this rate tripled to $4.9 \times 10^{(-5)}$ accidents per mile. This change can be attributed to the utilization of advanced, albeit still developing, technology in recent AEV tests, as well as the growing number of concurrently tested AEVs in California. The data presented in this figure are reported by the manufacturers as of April 2019.

4.2 Mobility Innovation Center for Intelligent (Beijing)

In 2018, the Beijing Invention Institute for Intelligent Mobility released an analysis on the evaluation of AEVs in urban areas with restricted space and focused populations [27]. By the end of December 2018, self-driving cars had covered a total distance of 153,565 kilometers, equivalent to 95,420 miles (refer to Figure 7(a)). Baidu comprised 90.8% of the manufacturers examined, ahead of Pony.ai (6.6%), NIO (2.7%), and Daimler AG (0.6%) [5, 16]. There have been no instances of disengagement or incidents as of yet. But it would be very helpful for people to have access to information about accidents. This openness could help all automakers get people to buy cars with automatic technology and give customers more faith in AEVs.

5. CHALLENGES & OPPORTUNITIES

The progress of AEV technology brings forth a multitude of advantages, such as improving transportation safety, reducing traffic congestion, liberating humans from driving responsibilities, and generating positive economic and environmental effects [4, 5]. Consequently, there is a rising interest in advanced AEV technology within academic and industrial spheres, offering diverse prospects for AEV advancement. Nevertheless, the extensive implementation of AEVs requires substantial experimental efforts to address challenges associated with software, hardware, vehicle systems, infrastructure, and interactions with other road users.

5.1 CHALLENGES

A big problem for AEVs to become widely used is that people are worried about their safety. To get more people to use AEVs, it's important to deal with the following problems [5]:

5.1.1. Reducing Perception Inaccuracy

Inaccuracies in perception make it hard to find, locate, and classify things in the surroundings. Also, making sure AEVs are safe depends on how well they can see and understand human actions like posture, voice, and movement [17].

5.1.2. Reducing Decision Inaccuracy

Creating a method for making decisions that is reliable, strong, and efficient is important if you want to respond to your environment quickly and accurately [18]. To do this, you need to test your hardware and apps thoroughly and carefully. Also, it is still hard to figure out the right thing to do in complicated situations. For instance, when faced with the dilemma of choosing between causing harm to pedestrians or preventing fatal accidents resulting from sudden system failures or mechanical breakdowns, making decisions becomes exceptionally challenging.

5.1.3. Reducing Action Inaccuracy

Establishing a dependable and stable communication link between the actuators and decision systems is essential to ensure the safety of autonomous electric vehicles (AEVs). This allows the actuators to accurately receive and execute commands from both human operators and automated systems, contributing to the overall safety and efficiency of AEVs.

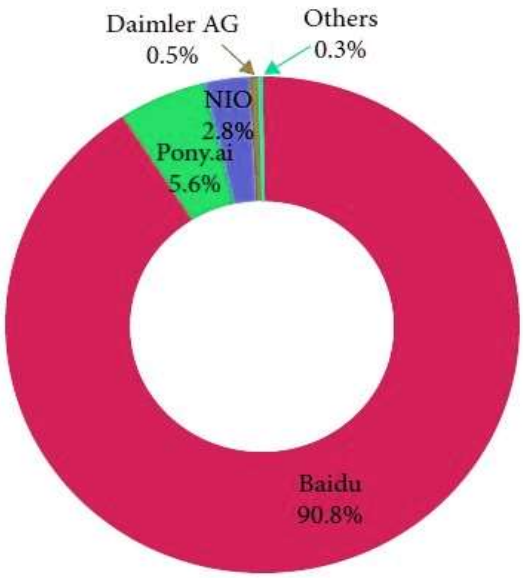

Figure 6: Relationship between Cumulative Accidents and Cumulative Autonomous Miles

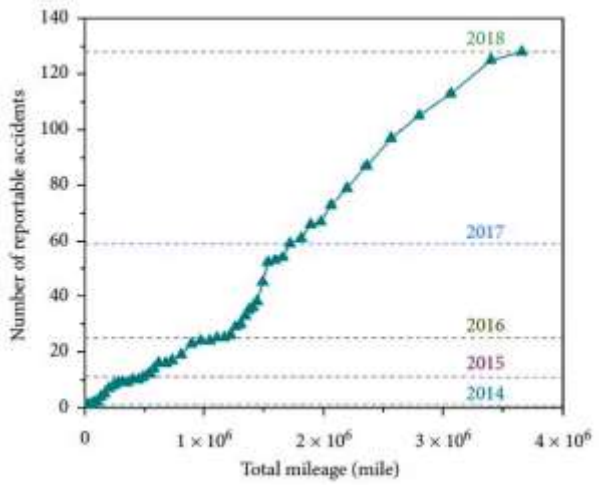

Figure 7(a): Cumulative Distance

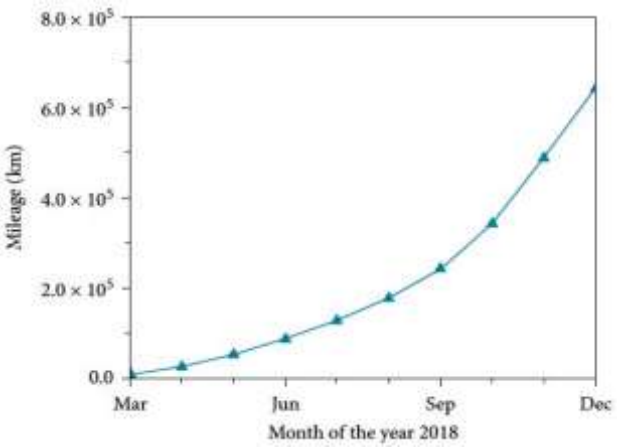

Figure 7(b): Comprehensive Analysis of the Distribution of Mileage Contributions among Different Manufacturers

5.1.4. Cyber-Security Attack

As autonomous electric vehicles (AEVs) continue to advance, their reliance on wireless connectivity will increasingly extend to interactions with road infrastructure, satellites, and other vehicles, forming what is often referred to as a "vehicular cloud." This is because autonomous technology is getting better. It is of utmost importance to prioritize the implementation of strong cybersecurity measures to address one of the primary concerns related to AEVs [5, 8].

5.1.5. Communication with Regular Transportation System

When AEVs and regular cars share public roads in cities, it can be hard for them to get along with other road users, like walkers and drivers of regular cars [18]. It becomes hard for these road users to tell what kinds of vehicles they are dealing with. The ambiguity surrounding AEVs can create feelings of stress for pedestrians and influence their decision-making, particularly when AEV drivers are preoccupied and fail to establish eye contact [5]. Rodrguez Palmeiro et al. propose the utilization of comprehensive behavioral assessments, such as eye-tracking, to gain further insights into pedestrians' reactions toward AEV technology [4].

5.1.6. Customer Acceptance

The broad implementation of AEVs encounters notable challenges, including safety considerations, cost implications, and public concerns [8, 9, 10]. Among these factors, safety emerges as the most crucial aspect due to its significant influence on public perception and acceptance of the emerging AEV technology.

5.2 OPPORTUNITIES

One argument supporting the development of AEV technology is that although some traditional job opportunities may be eliminated, the overall impact will result in the creation of more jobs. Extensive testing in diverse domains, including software, hardware, vehicle components, vehicle systems, sensing devices, and communication systems, is essential to drive the progress of AEVs [19, 20, 21]. By implementing AEV technology, human operators can be liberated from the driving process, leading to improved time management and increased efficiency in various aspects of life, including work, leisure activities, and education. Furthermore, the adoption of AEV technology brings about lifestyle changes, affecting areas like driving training and driver's license testing. This not only fosters progress within the AEV-related industry but also extends its benefits to non-AEV sectors [22, 23, 24].

AEV techniques can change the way people usually get around. The need for drivers to not have to drive has created an intelligent vehicle grid [25]. The foundation of this system is built upon sensor platforms that gather data from the surrounding environment, including information from other drivers and road signs [26]. These signals are then transmitted to drivers and infrastructure to assist in ensuring safe navigation, reducing pollution, improving gas mileage, and enhancing traffic control [27, 28]. A study conducted by Stern et al. involved an experiment on a ring road, where both autonomous and human-driven cars were present [29]. The results demonstrated that a single AEV could effectively regulate the traffic flow of at least 20 human-driven cars, leading to significant improvements in vehicle speed standard deviation, excessive braking, and fuel economy [30]. Liu and Song looked into two kinds of lanes for AEVs: lanes just for AEVs and lanes for AEVs that charge a fee [31]. Only autonomous cars can use dedicated AEV lanes, but human-driven vehicles can use AEV/toll lanes if they pay extra fees. Their models show that using both types of lanes can make the system work better. Gerla et al. looked at the Internet of Vehicles, which includes the ability to communicate, store information, be smart, and learn on its own [5, 10]. Their work suggests that the communication between vehicles and the Internet will substantially transform public transportation, making it more efficient and environmentally friendly. Consequently, traditional transportation systems must be adapted to accommodate AEVs [5].

Driving simulators have gotten a lot of attention because they can simulate automatic driving and accidents in virtual reality settings. Using driving simulators, researchers can learn a lot about how people drive, requests to take over, car-following moves, and other human factors [5]. This method reduces the risks of putting drivers in dangerous situations while giving them the chance to look at how decisions are made and what happens as a result.

6. CONCLUSION

Fully autonomous electric vehicles (AEVs) enable operators to engage in non-driving tasks, providing benefits to individuals and communities. However, the successful commercialization of AEVs faces significant technical challenges due to safety concerns. This comprehensive review article compares automation levels defined by various organizations, with widespread adoption of the Society of Automotive Engineers (SAE) standards. The article also conducts a theoretical analysis of accident types based on typical AEV architectures, encompassing perception, decision, and action systems. Statistical analysis of publicly available on-road AEV disengagement and accident reports in California reveals over 3.7 million miles of testing conducted by different manufacturers between 2014 and 2018. Disengagement frequencies range from $2 \times 10^{(-4)}$ to 3 disengagements per mile, varying among manufacturers. Among the 128 reported accidents, approximately 63.3% occurred during the autonomous mode, with only around 6.7% directly attributed to AEVs, while 94.7% were caused by pedestrians, cyclists, motorcycles, and conventional vehicles [5, 7]. These findings emphasize the need to address safety risks posed by other road users and make informed decisions to prevent fatal accidents.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 10 – 17, 2023, ISSN:- 2319 - 7560
DOI: 10.7753/IJSEA1206.1002

Drivers of Mobile Payments Acceptance: The Impact of Networks Externalities

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Abstract: Mobile payment has become increasingly popular due to the widespread use of smartphones and their applications. However, its adoption in African countries has been limited, despite its potential to simplify our lives. This study aims to enhance our understanding of the factors that affect the acceptance of mobile payment in Nigeria. To achieve this, the paper explores the impact of "network externalities" in addition to traditional technology acceptance factors. The study hypothesizes that the key drivers of mobile payment acceptance are performance expectancy, effort expectancy, social influence, trust, and network externality. The research findings suggest that while traditional drivers still play a role in customers' willingness to adopt mobile payment, network externalities have the strongest impact. Although the results did not support the influence of effort expectancy, the paper provides recommendations for future research.

Keywords: Nigeria, Smartphones, Network externalities, Mobile payment acceptance, Emerging technology, UTAUT, Africa

1. INTRODUCTION

Mobile payment refers to the financial service that allows individuals to carry out transactions using their mobile devices. This service has gained popularity in recent years, especially due to the emergence of smartphones and mobile applications. While some argue that mobile payment is a mere means of accessing internet payment services through mobile devices, others observe that the context differs, despite the similarity in functionality. In Nigeria, internet usage is high, with over 70% of the population having internet access [1].

Additionally, many Nigerians own smartphones, creating a solid foundation for mobile payment adoption. Nonetheless, the adoption rate of mobile payment in Nigeria has been relatively slow compared to other countries such as China, the United States, and some European countries. Although small mobile payments are becoming more prevalent, widespread adoption has been impeded by concerns regarding security, standardization, and inconsistent user experience [2]. Nonetheless, experts forecast that the mobile payment market will keep expanding in Nigeria, and it is expected to reach $465 billion in 2030 [3].

Compared to the United States and China, Nigeria, being the "giant of Africa," currently lacks the infrastructure and consumer base required to support the growth of mobile payment adoption. Moreover, further enhancements in security, standardization, and user experience are necessary to increase the widespread usage of mobile payments. There is a need for additional research on mobile payment acceptance, particularly in the Nigerian context where the technology is accessible, but adoption is still limited. This paper employs the Unified Theory of Acceptance and Use of Technology (UTAUT) to explore the factors that influence the intention to use mobile payment. UTAUT includes four primary predictors, performance expectancy, effort expectancy, social influence, and facilitating conditions [4].

However, since technology adoption models are specific to the technology being studied, this paper also incorporates two additional constructs. Trust is a significant factor in financial transactions, especially when conducted over wireless networks, and it has been shown to affect the intention to use technology. Additionally, this paper considers network externality, which is particularly relevant in developing countries where users' choice of a mobile network can impact their use of mobile technology applications.

This paper's structure is as follows: the literature review section examines UTAUT, trust, and network externalities, as well as mobile technology and mobile payment in a fourth subsection. The third section describes the empirical model, also known as the methodology, followed by data analysis and further discussion in section four. The paper concludes with recommendations and conclusions for future research.

2. LITERATURE REVIEW

The primary objective of investigating technology adoption is to acquire a thorough comprehension of the factors that impact individuals' choices to adopt a particular technology. The Unified Theory of Acceptance and Use of Technology (UTAUT), developed by [5], is a well-known model in this field. However, when analyzing the adoption of mobile payment technology, it is critical to consider the influence of factors such as trust and network externalities. In the subsequent three sections, we will explore the three elements of the proposed conceptual framework that we plan to adopt in detail.

2.1 UTAUT, Network Externalities & Trust

The Unified Theory of Acceptance and Use of Technology (UTAUT) was developed by Venkatesh et al. [5], and it integrates eight theories and models, including TAM, MM, MPCU, TPB, TRA, IDT, SCT, and C-TAM-TPB. UTAUT is considered a comprehensive model for technology acceptance, and it includes dynamic influences through the addition of four moderating variables, which enhance its explanatory abilities. The model consists of four main constructs, namely performance expectancy, effort expectancy, social influences, and facilitating conditions [6, 7, 8]. UTAUT is a suitable model for cross-cultural studies, as it is sensitive to cultural aspects, and it has been extended to include hedonic motivation, price value, and habit. Empirical investigations have shown that UTAUT outperforms competing models in studying the factors influencing technology acceptance and behavioural intentions [5, 6].

Effort expectancy, performance expectancy, facilitating conditions, and social influences are identified as important predictors of technology acceptance. Effort expectancy refers to the ease of use and complexity of a technology, which indirectly impacts behavioural intentions through performance expectancy. Performance expectancy includes perceived usefulness, relative advantage, and outcome expectation, and it is considered one of the strongest predictors of technology acceptance. Facilitating conditions refer to the technical and organizational infrastructure that makes using technology easy, and social influences refer to the pressure exerted by an individual's social surroundings to perform or not perform a behaviour [9, 10].

Network externalities are the phenomenon where the perceived value of a product or service increases as the number of users increases. Direct, positive, and indirect network externalities are the three types of network externalities that explain the relationship between utility and the number of buyers. Trust is a critical factor in the acceptance of mobile payment technology, particularly in developing countries [11, 12]. Trust refers to the willingness of one party to be vulnerable to the second party and allow it to conduct important actions on its behalf. Inexperienced customers tend to build their perceptions and opinions of other people in their social surroundings [13]. Trust is an under-investigated variable in the context of mobile payment technology, and it is essential for the technology's acceptance. Boosting customer trust can significantly predict mobile payment adoption when combined with other factors such as perceived usefulness, perceived ease of use, price, and peers' influence [14, 15].

2.2 Previous Studies – Mobile Payment

The UTAUT model has been extensively used to investigate the factors that contribute to the adoption of mobile payments [4]. Previous studies have found that customers' mobile payment intentions are directly influenced by effort expectancy, performance expectancy, social influence, and facilitating conditions. Most of the studies that employed the UTAUT model used survey research as the primary method of data collection [16].

Dahlberg and Mallat conducted a qualitative study to explore the impact of network externalities on mobile payment adoption [17]. They found that network externalities play a role in this process, but the external validity of their findings was limited due to a small sample size. Subsequently, Mallat used focus groups to further investigate the impact of network externalities on mobile payment adoption, but the generalization of the results was still an issue [18, 19]. The term "mobile payment" generally refers to payments made using mobile devices with phone capabilities, although it can include all mobile devices. For this study, any form of activity initiation, activation, and confirmation is considered a form of mobile payment [20].

Mobile payments are divided into two categories: proximity payments and remote payments, depending on the customer's location, relationship with the merchant, and usage scenario. Proximity payments involve exchanging credentials within a small distance using RFID technology or bar-code scanning and are also known as point-of-sale payments. Among proximity payment technologies, NFC is the most promising due to its convenience and security. NFC devices offer three operating modes: peer-to-peer mode, reader/writer mode, and card emulation mode, enabling contactless payments or ticketing. Remote payments are similar to online shopping and are conducted through mobile web browsers or smartphone applications [4, 21, 22]. Although remote payments seem to be more mature than proximity payments, both types can be integrated to improve the mobile payment market in the future.

3. EMPIRICAL APPROACH & MODEL

This study chose the UTAUT model due to its comprehensive approach to technology acceptance theories and its high explanatory power [5]. The goal of this research is to examine the factors that impact customers' intentions to use mobile payments. Through a literature review, certain constructs were identified as essential predictors of mobile payment acceptance that were not initially included in the UTAUT model. Conversely, some constructs in the model were discovered to have no significant influence on customers' acceptance of mobile technology.

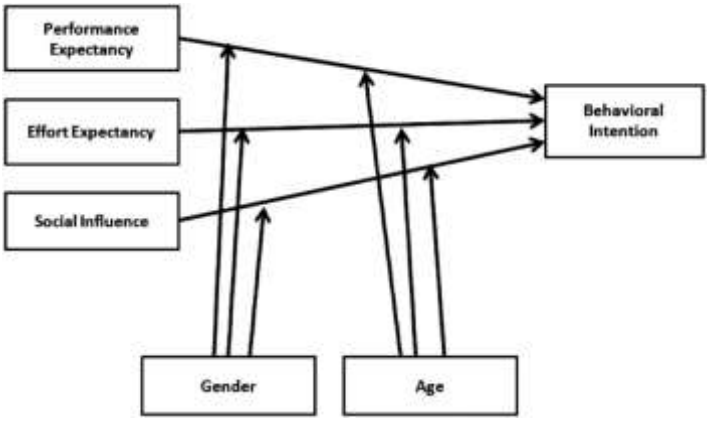

Figure 1: Empirical Model

To improve the UTAUT model's explanatory power, trust was integrated, as it is a crucial factor in financial transactions literature. As with many mobile services, network externalities play a role in mobile payment adoption [20]. As this study is focused on behavioural intention, the facilitating conditions construct, one of the original UTAUT constructs, was removed from the model as it was not deemed to have a significant impact on mobile payment acceptance. Figure 1 outlines the proposed research model.

3.1 Objective and Research Hypotheses

The objective of this paper is to investigate the factors influencing the intention to use mobile payment methods. To achieve this, a literature review was conducted to identify the significant factors affecting behavioural intentions (BI). The proposed set of hypotheses based on the research model is discussed below. Effort expectancy refers to the perceived ease of use associated with a particular technology [5]. When an individual perceives using a technology as easy, they are more likely to use it [23]. Prior studies have demonstrated that customers' belief that using mobile payment methods is effortless strengthens their intentions to use them [4]. Therefore, the following hypothesis is proposed:

H1: *Effort expectancy* ***(EE)*** *has a positive effect on customers' intentions.*
(BI) *to use mobile payment methods.* ***(1)***

The concept of Performance Expectancy refers to an individual's perception of the degree to which a technology can enhance their performance [5]. If a user perceives that a technology will improve their performance, they are more likely to use it [24]. The existing literature on mobile payment acceptance suggests that users are more likely to adopt mobile payment if they believe it will be helpful [4]. Therefore, the following hypothesis is proposed:

H2: *Performance Expectancy* ***(PE)*** *positively influences customers' intentions.*
(BI) *to use mobile payment.* ***(2)***

Social Influence is the pressure exerted on an individual by their social network to use or not to use an innovation [5]. This factor has been shown to be a significant predictor of technology acceptance in various contexts. In the area of mobile payment acceptance, research confirms that social pressure affects a user's willingness to use mobile payment systems [4]. Thus, the following hypothesis is proposed:

H3: *Social Influence* ***(SI)*** *positively influences customers' intentions.*
(BI) *to use mobile payment.* ***(3)***

Trust in the online environment refers to a customer's willingness to be vulnerable to a vendor after evaluating the vendor's characteristics, who is expected to provide an agreed-upon service [25]. Trust influences a customer's likelihood of accepting a given technology [26]. In the mobile payment context, customers' trust in the security and reliability of mobile payment systems is expected to drive their acceptance of it [27, 28]. Thus, the following hypothesis is proposed:

H4: *Trust positively influences customers' intentions.*
(BI) *to use mobile payment.* ***(4)***

Network externalities occur when the benefits of using a product increase as more people use it [29]. Payment systems are subject to the network externality effect [30]. In the mobile payment context, customers seem to be sensitive to the number of users of a technology and consider a large customer base a prerequisite for their adoption decision [17]. Additionally, the more merchants that offer mobile payment services, the more willing customers are to adopt them [31]. Thus, the following hypothesis is proposed:

H5: *The number of mobile payment users (merchants and customers) positively influences customers' intentions to use mobile payment.* ***(5)***

The model depicted in Figure 1 was utilized to employ the UTAUT model to investigate the acceptance of mobile payment technology. This includes the impact of age and gender on the four fundamental factors of the UTAUT model, including effort expectancy, performance expectancy, facilitating conditions, and social influence, and found that all four factors significantly influenced the acceptance of mobile payment technology in the specific region. This shows the importance of considering demographic factors such as age and gender when evaluating the acceptance and usage of new technologies across different countries [32].

3.2 Model Development

This study utilized a questionnaire to measure the proposed constructs in the developed model. To ensure the questionnaire's validity, the items were adapted from existing literature and customized to fit the context of mobile payment technology. The questionnaire utilized a 5-point Likert scale ranging from strongly disagree to strongly agree. As the original questionnaire was in the Arabic language (refer to Appendix Table 8), it was necessary to translate it into English for use in Nigeria. To ensure the translation's accuracy, back translation was employed [33].

Furthermore, to guarantee that the translated questions were culturally appropriate and easily understood by the specific population being studied, the questionnaire underwent back translation [34]. The final translated questionnaire was then distributed to the survey participants.

3.3 Survey and Data Collection

Recruiting participants for a study in Nigeria can be challenging and is influenced by various factors such as research design and target population. Similarly, this study adopted a meticulous approach to recruit participants and distribute questionnaires to ensure a representative sample that accurately reflects the research objectives. Recruitment methods used include personal distribution, contact persons, or online survey platforms depending on specific factors.

International Journal of Science and Engineering Applications
Volume 12-Issue 06, 10 – 17, 2023, ISSN:- 2319 - 7560
DOI: 10.7753/IJSEA1206.1002

Table 1. Collinearity Statistics

Independent variable	Tolerance	VIF
Effort expectancy	0.533	1.877
Social influence	0.698	1.432
Performance expectancy	0.513	1.950
Trust	0.667	1.500
Network externalities	0.550	1.819

Table 2. Sample Demographics

Gender	***No.***	***%***	***Age***	***No.***	***%***
Men	67	30.70%	Below 20	59	23.50%
Women	180	67.70%	Between 20 – 40	146	58.20%
Data N/A	4	1.60%	Above 40	39	15.50%
Total	251	100%	Data N/A	7	2.80%
			Total	**251**	**100%**
Education	***No.***	***%***			
College	37	10.80%	***Income (in ~~₦~~aira)***	***No.***	***%***
B.Sc.	150	63.70%	Below ~~₦~~250K	46	22.30%
M.Sc.	25	12%	~~₦~~250K – ~~₦~~550K	119	47.40%
Others	34	9.50%	Above ~~₦~~550K	66	22.30%
Data N/A	5	4%	N/A	20	8%
Total	**251**	**100%**	**Total**	**251**	**100%**

As in previous studies, participation was voluntary, and incentives were used to encourage participation. The target sample size was 300, with most surveys conducted in person. To aid in data collection, six contact individuals consisting of secondary school teachers, university undergraduates, graduate students, and researchers themselves were utilized. The research team randomly selected participants in natural settings such as schools and assessed their familiarity with mobile payments before administering the survey.

The survey was distributed between July 4th to 15th, 2022, with no incentives given to participants. Although the target sample size was not achieved, 258 out of 280 surveys were retrieved, and 253 were considered usable after a preliminary visual assessment. Despite some deviation from distribution percentages, the study participants were considered representative of the Nigerian population, including individuals from various age groups, educational levels, and average income levels. Ensuring a representative sample and the validity and reliability of survey instruments are essential in producing trustworthy and generalizable research findings, despite any differences between previous studies and research in Nigeria.

4. DATA ANALYSIS & DISCUSSION

After collecting 253 surveys, the data was entered into an Excel sheet and imported into SPSS and AMOS 20 for analysis to answer the research questions and test the hypotheses. The upcoming sections will explain the data analysis and discuss the obtained results.

4.1 Initial Analysis

To assess the potential impact of outlier data on the results, the study conducted an initial multiple regression test on 253 responses, after excluding two cases based on case-wise diagnostics. The demographic characteristics of the sample are presented in Table 1, including gender, age, education, and income. The sample comprises more females, middle-aged individuals, bachelor's degree holders, and middle-income subjects. The second preliminary analysis examined the correlations between independent variables, which can affect the magnitude and direction of betas in the regression equation.

The analysis involved two tests, inspection of the correlation matrix and collinearity statistics. To test for collinearity, the study computed tolerance and variance inflation factor (VIF), as presented in Table 2. Tolerance values measure how much a variable influences other independent variable, while VIF values measure how much the variance of each regression coefficient increases when independent variables are correlated. The study concluded that there were no issues with multicollinearity, as all tolerance and VIF values in Table 2 were within acceptable limits. Cronbach's alpha was also utilized to assess the internal consistency between the survey items measuring each independent variable and the dependent variable. In social sciences, alpha values greater than 0.6 are considered acceptable for reliability. Table 3 reports the reliability measures, which indicate that the survey items used to measure each variable were highly consistent.

4.2 VIF Analysis

A confirmatory factor analysis was conducted to comprehend how the variables measure the factors they signify. The outcomes of this analysis, presented in Table 4, include the factor loadings, construct reliability, average variance extracted, maximum shared variance, and average shared variance. Factor loadings exceeding 0.5 are deemed significant, and except for Q14, all factors exhibit significant loadings. The construct reliability (CR) and average variance extracted (AVE) measures suggest that all the model constructs possess reliable and convergent features. Model constructs with CR values above 0.7 are deemed reliable, and all the model constructs meet this standard.

Furthermore, constructs with an AVE greater than 0.5 indicate that the construct's variance is more significant than the variance caused by error, and all the model constructs satisfy this requirement. Additionally, the results reveal that the factors within each construct are not excessively correlated, indicating a good level of convergent validity. Discriminant validity occurs when the factors measuring each construct have more correlations with each other than with other factors. To establish discriminant validity, the average shared variance (ASE) and maximum shared variance (MSV) must be lower than the AVE. In this study, the measurement model fulfils these criteria.

International Journal of Science and Engineering Applications
Volume 12-Issue 06, 10 – 17, 2023, ISSN:- 2319 - 7560
DOI: 10.7753/IJSEA1206.1002

Table 3. Cronbach's Alpha (Mean & Standard Deviation)

Variable Data	Item	Mean	*SD	*CA	No.
Effort expectancy	Q-1	3.54	1.17	0.857	4
	Q-2	3.55	0.96		
	Q-3	3.59	1.02		
	Q-4	3.68	1.15		
Performance expectancy	Q-5	3.51	1.42	0.805	4
	Q-6	3.44	0.79		
	Q-7	3.03	0.25		
	Q-8	3.4	1.22		
Social influence	Q-9	3.06	0.79	0.75	3
	Q-10	3.01	0.44		
	Q-11	3.4	1.74		
Trust	Q-12	2.76	1.07	0.723	4
	Q-13	3.02	1.55		
	Q-15	3.22	1.25		
Network externalities	Q-16	3.92	1.11	0.74	3
	Q-17	3.23	0.78		
	Q-18	3.55	1.11		
Behavioural intentions	Q-19	3.14	1.54	0.876	3
	Q-20	3.38	0.78		
	Q-21	3.28	1.2		

**SD= Standard Deviation, CA=*Cronbach's Alpha*

Table 5. Matrix Data on Correlation

**At a level 0.01 (2-tialed) the Correlation is significant)*

Data	EE	PE	SI	T	NE	BI
(EE)[1]	1					
(PE)[2]	0.637*	1				
(SI)[3]	0.376*	0.408*	1			
(T)[4]	0.362*	0.418*	0.476*	1		
(NE)[5]	0.588*	0.571*	0.365*	0.440*	1	
(BI)[6]	0.545*	0.615*	0.469*	0.544*	0.632*	1

Table 6. Model Fit

Index	Value	Threshold Values*
Chi-square	333.82, P < 0.001	Value is Significant
Deg. of freedom	149	-
X2/df (Deg. of freedom)	2.215	< 0.302
CFI	0.916	> 0.809
TLI	0.917	> 0.808
RSMEA	0.058	< 0.06 remain significant if the sample size is >250 and the CFI > 0.902

**(Source: Hair et al. 2009)*

[1]Effort Expectancy: (EE. [2]Performance Expectancy: (PE).
[3]Social Influence: (SI). [4]Trust: (T).
[5]Network Externalities: (NE). [6]Behavioural Intentions: (BI)

4.3 Model fit and Testing Hypotheses

Before testing the hypotheses, it is crucial to examine the rationale behind the variables. Table 5 displays the correlation matrix, which indicates the relationships between the independent variables and the dependent variable, behavioral intentions. The matrix reveals that performance expectancy, effort expectancy, social influence, trust, and network externalities are significantly correlated with behavioral intentions. Performance expectancy and network externalities have the most considerable bivariate impact on behavioral intentions among these variables. All the correlation values in Table 5 are acceptable, indicating a significant correlation between behavioral intentions and each independent variable. To assess the suitability of the research model, we utilized AMOS 20 and evaluated the values of chi-square, degree of freedom, CFI, and RMSEA, which are shown in Table 6 along with their acceptable thresholds. All reported values fall within the acceptable range, indicating a good fit for the research model. The model is capable of predicting behavioral intentions, with the exception of effort expectancy, and has an explanatory power of 58%. Table 7 shows the standardized beta coefficients for the estimated relationships, as well as the results of hypothesis testing. The prediction equation is provided below:

$$BI = 0.35\,PE + 0.13\,SI + 0.22\,T + 0.34\,NE + error \qquad (6)$$

Table 4. Result

Data		LF*	RC*	AEV*	MSA*	ASA*
EE[1]	Q-1	0.74	0.872	0.643	0.442	0.282
	Q-2	0.82				
	Q-3	0.8				
	Q-4	0.81				
PE[2]	Q-5	0.7	0.828	0.556	0.542	0.328
	Q-6	0.8				
	Q-7	0.62				
	Q-8	0.66				
SI[3]	Q-9	0.75	0.75	0.506	0.265	0.222
	Q-10	0.63				
	Q-11	0.74				
T[4]	Q-12	0.9	0.804	0.611	0.337	0.215
	Q-13	0.62				
	Q-15	0.73				
NE[5]	Q-16	0.83	0.802	0.585	0.452	0.316
	Q-17	0.76				
	Q-18	0.62				
BI[6]	Q-19	0.87	0.858	0.644	0.442	0.348
	Q-20	0.82				
	Q-21	0.73				

**LF = Load Factor.*
**RC = Reliability Construct.*
**AEV = Average Extracted Variance.*
**MSA = Maximum Shared Variance.*
**ASA = Average Shared Variance*

International Journal of Science and Engineering Applications
Volume 12-Issue 06, 10 – 17, 2023, ISSN:- 2319 - 7560
DOI: 10.7753/IJSEA1206.1002

4.4 Discussion of Results

The results of the research model were largely positive, with the exception of effort expectancy (H1), which did not have a significant impact on customers' behavioral intentions towards mobile payment, despite a significant correlation in the bivariate relationship (as indicated in Table 5). This implies that while ease of use is somewhat important to Nigerian customers, its importance is diminished by the high penetration and daily use of mobile phones for this relatively new mobile-based technology. This finding is consistent with previous studies but differs from some other research [35, 36].

On the other hand, performance expectancy (H2) and social influence (H3) were both significant predictors of customers' acceptance of mobile payment. The findings suggest that Nigerian customers value the potential benefits of mobile payment and are influenced by the opinions of others in their social circle, which is consistent with prior studies. Trust (H4) and network externalities (H5), two other variables included in the research model, were also found to be significant predictors of mobile payment acceptance. For customers to conduct financial transactions via mobile payment, they must have confidence in the technology and the service provider, which is where trust (H4) comes in. Network externalities (H5) had the most significant impact on customers' behavioral intentions towards mobile payment, accounting for 23.7% of the variance [36]. This result indicates that customers are more likely to use mobile payment when more merchants accept this payment method, and they believe that the more people using it, the lower the cost. As previous research has shown, creating critical mass is essential for driving customers' acceptance of mobile payment [17]. Table 7 displays the estimated relationships and their corresponding standardized beta, along with the results of hypothesis testing. The prediction equation is presented below, and the findings are summarized in the table.

Table 7. Relationship Set

Hyp #	Relationship	Result	Stand. Beta
H1	EP→BI	Not Supported	0.04
H2	PE→BI	Supported	0.35
H3	SI→BI	Supported	0.13
H4	T→BI	Supported	0.22
H5	NE→BI	Supported	0.34

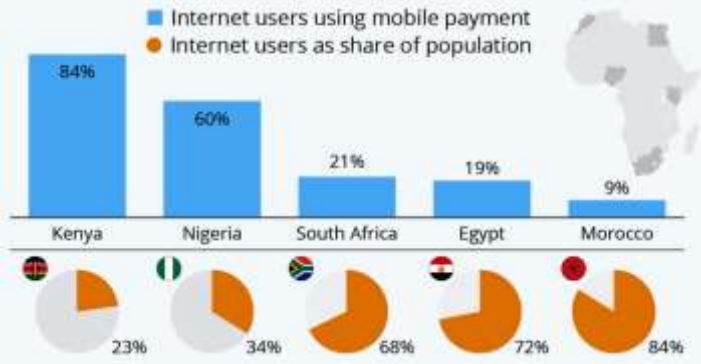

Figure 1: Potential of Mobile Payment in Africa as at 2021

5. CONCLUSION

In this study, the influence of five major predictors on customers' intentions to use mobile payment technology was investigated: performance expectancy, effort expectancy, social influence, trust, and network externality. The bivariate correlations confirmed a significant relationship between each predictor and behavioral intentions. However, when all predictors were considered together in the research model, some predictors lost their significance due to commonalities that may be attributed to an unknown factor. The results revealed that all predictors, except for effort expectancy, significantly predicted behavioral intentions, providing support for all five hypotheses. Notably, network externality had the strongest impact on mobile payment acceptance. Together, the five predictors explained 58% of the variance in behavioural intentions.

6. FUTURE DEVELOPMENTS

6.1 Implications and Recommendations

This paper discusses several implications for future research in the field of mobile payment acceptance. The following recommendations should be considered:

A. The influence of effort expectancy (ease of use) on mobile payment acceptance should be studied further through path analysis, as it did not have a direct influence in the model but may have an indirect influence through performance expectancy.

B. Network externalities should be included as a major predictor in future mobile payment acceptance studies, as it is an important factor for technology acceptance but not commonly included in technology acceptance models.

C. Performance expectancy remains an essential predictor of technology acceptance and should be included in any model, as it is a dominant construct in technology acceptance research. Merchants, banks, and other businesses should monitor the factors influencing the adoption of mobile payment technology and design their marketing policies accordingly. Trust is also a key factor for customers' willingness to accept mobile payment services, and managing the organization's image and creating a trustworthy brand name should precede offering mobile payment services.

D. System developers should prioritize performance expectancy when designing mobile payment systems, as it is the second most influential predictor of acceptance. To improve uptake, developers should aim to maximize the number of payment types supported, the ability to handle different currencies, and processing speed. Additionally, developers should consider the role of website design in building trust, as features such as system transparency can have a significant impact on customer trust.

6.2 Limitations

To curb the spread of the pandemic, many African governments have been advocating for the use of mobile payments, with some even waiving transaction fees. Kenya, where mobile money was initially developed in Africa, has been most successful in this payment method. According to the Economic

and Financial Affairs Council, Kenya experienced a record-high of $55.1 billion in mobile transactions in 2021, representing almost a 20% increase from the previous year. Statista's Global Consumer Survey also revealed that 84% of Kenyan internet users utilized mobile phones to make payments, which is higher than in Europe. While only a quarter of the Kenyan population has internet access, there is still a chance for growth in mobile payments.

Similarly, in Nigeria, where internet penetration is approximately 34%, 60% of internet users made mobile payments in 2021 [37, 38, 39]. In countries like Kenya and Nigeria, where the majority of the population does not have a bank account, mobile payments are crucial for financial inclusion. M-Pesa, developed by Safaricom in Kenya in 2007, is the leading mobile wallet in Africa, with over 50 million active monthly users across the continent. According to Statista's Global Consumer Survey, in 2021, 84% of Kenyan internet users made payments using their mobile phones, indicating a higher adoption rate than in Europe. Similarly, in Nigeria, 60% of internet users used mobile payments, despite the country's low internet penetration rate of approximately 34%. Mobile payments offer benefits such as ease of use and access, reduced transaction time, and the introduction of a cashless economy. However, challenges such as inadequate infrastructure and the need for trustworthy agents could hinder adoption. Researchers have identified the relative advantage, perceived ease of use, compatibility, trust, and security as significant determinants of intention to use mobile payment. Consumers who are comfortable with internet and mobile banking are more likely to try the service and encourage others. Secure and reliable service is essential for the successful transition to a cashless society in Nigeria [40].

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Appendix

Table 8. Original Sources (for items used to build the instrument).

Item	Source
Effort expectancy	
➢ I find it easy to learn and use mobile payment.	Venkatesh et al. (2012)
➢ My experience with mobile payment is straightforward and understandable.	Peng et al. (2011)
➢ Becoming proficient in using mobile payment is easy.	
Performance expectancy	
➢ I experience mobile payment usefulness in my daily life.	Venkatesh et al. (2012)
➢ The use of mobile payment raises my hopes of achieving actions that are vital to me.	Peng et al. (2011)
➢ Relying on mobile payment helps me accomplish things very quickly.	
➢ The use of mobile payment drives my productivity.	
Social influence	
➢ Those important to me believe that I should utilize mobile payment.	Venkatesh et al. (2012)
➢ People around me think that I should be making the use of mobile payment.	Peng et al. (2011)
➢ Those whose suggestions that I value think that I use mobile payment.	
Trust	
➢ Mobile payments are trustworthy	Zmijewska et al. (2004)
➢ I believe that information sent via mobile payment is confidential.	
➢ I often receive immediate confirmation message for the transaction I make.	
➢ I am one of those that trust mobile payment systems are reliable.	
Network externalities	
➢ If numerous merchants accept mobile payment, then:	
There will be a service improvement in the quality of mobile payment,	Yu and Tao (2007)
And a broader span with a variety of mobile payment services will be available.	Shapiro (1992)
➢ Customers will have to pay less to use mobile.	
Behavioural intentions	
➢ I plan to use mobile payment any moment in the future.	Venkatesh et al. (2012)
➢ My expectation is that I will be utilizing mobile payment in my daily activity.	Peng et al. (2011)
➢ I intend to use mobile payment very often.	

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 18 – 20, 2023, ISSN:- 2319 - 7560
DOI: 10.7753/IJSEA1206.1003

Exploration of China's Way to Carry out International Chinese Education Communication in South and Southeast Asia

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Abstract: Although the incorporation of Chinese into the national education system of Southeast Asian countries has achieved initial results, the breadth and depth of the incorporation of Chinese into the national education system is still limited, and it is urgent to promote the in-depth coverage of Chinese education and dissemination in Southeast Asia. Based on this, suggestions are put forward to comprehensively promote the integration of Chinese into the national education systems of Southeast Asian countries from the three levels of individuals, schools, and countries: we should take the "Belt and Road Initiative" as the background to strengthen professional construction and improve teaching quality, use the Confucius Institute as a carrier to deepen cooperation with Educational and scientific research cooperation among countries along the route; actively "going out" through Sino-foreign cooperative education, and promoting the internationalization of higher education.

Keywords: International Chinese Education; South and Southeast Asia

1. INTRODUCTION

Entering the 21st century, under the support and guidance of national policies, and driven by the rapid development of mobile Internet and related applications, my country's media industry has achieved new development achievements, and several influential media groups have emerged. But in terms of the scale and quality of the development of the entire media industry, there is still a big gap between us and the developed countries in the world's media industry. These gaps are prominently reflected in the relatively weak dissemination and influence of my country's mainstream media, the mismatch between the discourse power in the international public opinion field and the comprehensive national strength, and the fact that China's national image is distorted and smeared by foreign public opinion and Western media from time to time.

General Secretary Xi Jinping pointed out during the 30th collective study of the Political Bureau of the CPC Central Committee on May 31, 2021, "It is necessary to strengthen the propaganda and interpretation of the Chinese communist party, and help foreign people realize that the Chinese Communist Party is truly striving for the happiness of the Chinese people, understand why is the Communist Party of China capable, why is Marxism practiced, and why is socialism with Chinese characteristics good", "we must comprehensively improve the effectiveness of international communication, and build a team of specialized talents that can meet the needs of international communication in the new era", while emphasizing that "it is necessary to strengthen the construction of disciplines in colleges and universities and Reserve talent training", these important expositions have pointed out the direction for colleges and universities to cultivate international communication talents with the red gene of the party media.

The innermost layer is Kunming's international education industry, including two parts of academic education and non-academic education, which are the core construction content; the middle layer refers to related industries driven by the development of Kunming's international education industry, among which infrastructure construction includes public transportation, communications, network management systems, government public services, etc.; the outermost layer means that with the construction of the inner two-tier system, the external effects of "f" will be overflowed, that is, the development situation required by the Kunming International 41= strategy. Southeast Asia the country has a complex language system, and its main languages are characterized by diversity.

Since economic globalization, Southeast Asian countries advocate the development of multiculturalism and generally attach importance to foreign language education. Southeast Asian countries have gradually relaxed their Chinese education policies and encouraged mainstream schools to carry out Chinese teaching. Many countries have issued relevant policies to formally incorporate Chinese into their national education systems. Yunnan also has many advantages: location, channel, climate, natural resources, tourism resources, ethnic cultural resources and so on. In terms of location, Yunnan is connected to the "Silk Road Economic Belt" in the north and the "Maritime Silk Road" in the south. It is the only province in China that can simultaneously communicate with Southeast Asia and South Asia by land, and connect Europe and Africa through the Middle East; from history Looking at it, Yunnan enjoyed the prosperity brought by the ancient southern Silk Road as early as the Qin and Han Dynasties, from the current situation, Yunnan has attracted a large number of overseas students through its unique climate, natural tourism and ethnic cultural resources.

International Journal of Science and Engineering Applications
Volume 12-Issue 06, 18 – 20, 2023, ISSN:- 2319 - 7560
DOI: 10.7753/IJSEA1206.1003

2. THE PROPOSED METHODOLOGY

2.1 Southeast Asian countries where Chinese is included in the national education system

Countries in South Asia and Southeast Asia relate to China by mountains and rivers, blood, and nationalities. They have special humanistic origins. Active international communication work for South and Southeast Asian countries will help establish a good image of China as a reliable partner of neighboring countries and enhance China's relationship with China. The cooperation and friendship between South and Southeast Asian countries will enhance China's influence, appeal and shaping power in South and Southeast Asia. Yunnan is an important window and gateway for China to South Asia and Southeast Asia. It is located at the junction of the Chinese economic circle, the South Asian economic circle, and the Southeast Asian economic circle. With the improvement of the quality of education in Kunming, the students and teachers trained on the one hand, can directly provide sufficient human resources support for Kunming's talent strategy; Key talent from all walks of life in the country. These foreign students who have studied in Mineoka and formed a deep relationship with Kunming will surely "feedback" Kunming in various fields such as economy, culture, trade, and education in the future, and become a broad network of contacts for further in-depth ties between Kunming and Southeast Asia and South Asia.

There are 6 countries in Southeast Asia (Cambodia, Laos, Myanmar, Thailand, Indonesia, Vietnam) using a single main language, accounting for 54.55%; 5 countries (East Timor, Philippines, Malaysia, Singapore, and Brunei) using dual or multiple main languages, Accounting for 45.45%. The reason why Southeast Asian countries form dual or multiple main languages is influenced by colonial language policies. The main language of a bilingual or multilingual country generally retains the main national language and the language of the original colonial country. Taking the Philippines as an example, English has had a deep-rooted influence in the Philippines, and English has been retained as the official language of the Philippines, while Tagalog, the main national language, has also become the national language of the Philippines and is also used as an official language.

Improve the quality of teaching and provide talent support for the construction of the “Belt and Road”. Colleges and universities make full use of Yunnan provincial government scholarships, national government scholarships, and Confucius Institute scholarships, improve scholarship usage methods and scholarship student management methods, and attract more students from Southeast Asia and South Asia to study in Yunnan. The government supports the construction and development of Guomen University, provides special funds for the cultivation of international talents of Guomen University, provides policy support for the further training of teachers of Guomen University, and the application of scientific research projects, etc., and gives full play to its advantages of directly radiating neighboring countries, and contributes to internationalization. Create conditions for the cultivation of talents. The proposal of "china-asean free trade area" provides an important basis for Kunming to determine its economic strategic position. Under the influence of global economic regionalization, the world is developing towards economic regionalization. Economic integration organizations such as the north American free trade area, the European union, and the Arab league were gradually formed. Historical experience proves that these organizations provide a good framework and platform for promoting regional economic development. With the economic development of countries in the southeast arc and south industry, the blowout era of the international education market is coming.

2.2 The pull factor for the inclusion of Chinese in the national education system of Southeast Asian countries

2% of the students are very familiar with innovation and This provides a broad market opportunity for Kunming to develop international trade, international services, international tourism, international education and other markets in Southeast Asia and South Asia. Individual language choices are based on language value and language needs. Overseas Chinese learners have Chinese learning needs due to the value of Chinese, and then make language choices. Many studies have shown that language ability is often related to personal development and is positively correlated with income, especially in the information age and knowledge economy age. Therefore, proper language development is one of the most important aspects of life planning.

According to the national strategy and the needs of Yunnan’s opening to the outside world, colleges, and universities in Yunnan Province focus on “inviting in” high-level universities from Singapore, Malaysia, and other countries, and “going out” to countries such as Thailand, Laos, Vietnam, and Myanmar. To the combination of "please come in" and "go out". At the same time, it is necessary to innovate ideas, take the initiative to "go out", and give full play to the disciplinary advantages of various universities, such as the ethnology advantages of Yunnan University, the language training advantages of Yunnan Normal University, the engineering technology advantages of Kunming University of Science and Technology, and the minority language advantages of Yunnan University for Nationalities. Yunnan Agricultural University's agricultural technology advantages, etc., actively carry out cooperative education projects with universities in Southeast Asian and South Asian countries and establish overseas branch campuses. China and Singapore have already carried out several cooperation’s in the field of education.

For example, Sichuan "Fan University" and Singapore's higher education cooperation, China's Jiangsu-Singapore Higher Vocational Education Cooperation Forum, Guangdong, and Singapore's technical education cooperation, etc., and in April 2009, South China State Councilor Liu Yandong proposed when he met Singapore Prime Minister Lee Hsien Loong China-Singapore education technology cooperation has become a highlight of cooperation between the two countries. Training schools are a powerful supplement to Chinese education. With the growing demand for Chinese talents in Southeast Asia, Chinese training institutions are becoming more and more active. The Chinese Cultural Center in Singapore provides public Chinese teaching training and information services, the Oriental Culture Academy in Bangkok, Thailand has become the largest Chinese training school in Thailand, offering language classes, calligraphy, HSK remedial classes, etc. Chinese training schools in Southeast Asian countries have become a powerful supplement to Chinese education and provide a solid foundation for Chinese teaching. The diversified development has added vitality.

Innovate the talent training mode of Sino-foreign cooperative education projects and expand the scale of students exchanged

by both parties through mutual recognition of credits, mutual recognition of academic qualifications, and mutual award of degrees. Create online classrooms, share teaching resources, improve the feasibility of cooperative education projects by changing traditional classroom teaching methods, and expand the attractiveness of Chinese language, Yunnan minority culture, and tourism resources to students from Southeast Asian and South Asian countries. The competition of international communication power is essentially the competition among media, and the key to media competition is talent competition.

In the face of the current fierce competition for discourse power in the international public opinion field and the specific stage of the development of my country's media industry, we must adhere to the guidance of the Marxist news concept, inherit the red genes of the party media, and focus on cultivating a group of people with red genes, international vision and mastery of international news communication talents with advanced means of communication is an important measure to enhance my country's international communication capabilities. With the increasingly close economic globalization and cross-cultural exchanges, China, and countries in South and Southeast Asia have more and more common interests and demands. The international communication for South and Southeast Asia should focus on showing China's economic, social, and cultural development achievements and bringing benefits to neighboring countries. come with real benefits.

3. CONCLUSION

How to better define the positioning of international communication talents, integrate the Marxist journalism view throughout the entire process of international communication talent training, and integrate resources to improve the quality of talent training still requires further practice and exploration by journalism and communication departments. We have reason to believe that with the further enhancement of China's comprehensive national strength, the further renewal of international communication concepts, and the further development and iteration of international communication methods, the international competitiveness of China's media will be further enhanced. The development of Chinese education and communication in Southeast Asia is typical and leading. Through the analysis of the situation and motivation of Chinese being included in the national education system of Southeast Asia, it is helpful to recognize the development stage of Chinese education and dissemination in Southeast Asia, grasp the motivation mechanism that affects the inclusion of Chinese in the national education system, and then propose to comprehensively promote the inclusion of Chinese in the national education system of Southeast Asian countries. The countermeasures and suggestions for the education system are of great significance for promoting the development of international Chinese education and dissemination and enhancing the influence of Chinese language and Chinese culture.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 21 – 23, 2023, ISSN:- 2319 - 7560
DOI: 10.7753/IJSEA1206.1004

The Logic and Essentials of "Course Ideology and Politics" Practiced by Professional Teachers in the Big Data Era

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Abstract: The advent of the era of big data has brought new challenges to human data control ability and brought huge challenges to the cultivation of ideological and moral awareness of teachers of ideological and political courses in colleges and universities. To make better use of and respond to the opportunities and challenges brought by big data, it is necessary to further update the teaching concept, strengthen the awareness of big data, master the technology of big data, and improve the ability of data processing. In terms of curriculum, the formation mechanism and logical structure of the ideological and political role of science and engineering are the key to the implementation of "curriculum ideological and political" by science and engineering teachers. The article reveals and interprets this, and finally points out the specific essentials for science and engineering teachers to practice "curriculum ideology and politics".

Keywords: Logic and Essentials; Course Ideology and Politics; Professional Teachers

1. INTRODUCTION

With the rapid development of data sources or data carrying methods such as mobile Internet, Internet of Things, cloud computing, smartphones, tablet computers, artificial intelligence, and PCs, the era of "big data" in human society is coming. Human's ability to control data is accepting new challenges raised by the era of big data, and it also provides unprecedented opportunities for people to improve their insights. Professor Gary King of Sociology at Harvard University once said: "This is a revolution. Huge data resources have enabled various fields to start a quantitative process. Regardless of academia, business or government, all fields will start this process." Colleges and universities as the most knowledgeable the era of big data will inevitably lead to changes in the educational concepts and methods of colleges and universities, and naturally put forward higher requirements for the ideological and political education work in colleges and universities.

The so-called big in big data not only refers to its huge capacity, but also refers to the integration and application of large amounts of data, and the ability to use data to create new value. The significance of big data technology is not only to master the data, but also to conduct professional analysis and processing of valuable data, improve the ability to process data, and increase the value of data. Therefore, in the era of big data, we must improve our data processing capabilities, develop, and utilize the value in big data. This requires teachers of ideological and political courses to actively explain the basic essence of Marxism, enhance its attractiveness and influence, actively guide students to use Marxist theoretical weapons to analyze various trends of thought in society, and rationally view many phenomena that appear in the process of social development , to achieve the students' public recognition of Marxism, thereby enhancing the effectiveness of the theoretical discourse power.

As Marx said in the "Introduction to the Critique of Hegel's Philosophy of Right": "As long as the theory convinces people, it can master the masses; and as long as the theory is thorough, it can persuade people." Our humanities and social sciences insist on Marxism as Guidance has implemented the standpoint, viewpoint, and method of Marxism. It can be said that the humanities and social sciences themselves are a living model for learning and applying Marxism, permeating the basic requirements of Marxism, reflecting the will and requirements of the party and the country, and its ideological and political orientation is very significant and clear, that is, the curriculum itself is It is laid out and implemented in accordance with the party's ideological and political propositions, positions, and thinking viewpoints. The science and engineering curriculum itself takes natural knowledge as the basic object, reflects the natural laws and operating mechanisms of things, is objective, and transcends ideology, and is commensurate and universal. The so-called "science has no borders", it can be said that nature does not the reason remains the same, and science and engineering courses are not related to ideological and political positions, which are significantly different from the ideology of humanities and social science courses.

In the process of traditional ideological and political education, teachers of ideological and political courses master theoretical education materials and are in the dominant position of information. However, with the advent of the era of big data, the information advantages of teachers of ideological and political courses are gradually lost. The massive amount of information in the era of big data and its widespread dissemination make college students accept new things every day, and their ideological dynamics are becoming more and more difficult to grasp, which reduces the effect of cultivating ideological and moral awareness of teachers of ideological and political courses in colleges and universities. In the traditional ideological and political education model, teachers of ideological and political courses are in a dominant position, and they hold all the teaching materials in their hands. However, with the advent of the era of big data, the dominance of teachers of ideological and political courses has undergone certain changes, and they are no longer the dominance in the education process.

2. THE PROPOSED METHODOLOGY

2.1 "Course Ideology and Politics" focuses on the role of ideological and political education.

In the era of big data, the widespread dissemination of data information can enable students to accept different things at any time, and at the same time have a certain impact on their ideological dynamics, resulting in a reduction in the role of ideological and political teachers in cultivating ideological and moral awareness. The main reasons for this form are as follows: First, teachers of ideological and political courses lack the awareness of collecting and utilizing big data. In the current ideological and political education, teachers can use advanced teaching methods to carry out teaching, such as using the Internet, electronic teaching plans, etc. Some teachers can also use QQ, Weibo and other platforms to design teaching plans and understand students' ideological trends. Vivid expression of the discourse system can be achieved in the following three ways. One is the practicalization of theoretical discourse.

When teachers of ideological and political theory courses teach basic concepts and related theories through theoretical discourse, they should strengthen the combination with reality, and pay attention to the use of practical discourse to explain and explain purely conceptual theoretical discourse. The second is the case-making of abstract views, that is, teachers are good at using cases in real life and vivid examples of interest to college students to make the abstract theories and basic views of Marxism vivid and three-dimensional, to avoid empty and boring preaching as much as possible. The third is the popularization of text discourse, that is, trying to transform some rigid academic text-type language into discourse suitable for college students, and boldly learn from some healthy and popular Internet discourse to enrich the teaching discourse system. The penetration of professional ethics is the value support of "Curriculum Ideology and Politics". Curriculum ideology and politics are obviously closely related to the curriculum, as well as the knowledge structure and professional skills of the curriculum.

Science and engineering courses reveal the "natural principles", but those who master and use this theory have a problem with "the way of life", that is, professional ethics. Because natural science must ultimately apply what it has learned, where to apply it, how to use it, and in whose hands, it is a very significant ethical issue. It is often said that "is the use of science to open the gate of heaven or dig through the gate of hell?" The key lies in whether people who master science and technology have correct professional ethics. For example, since the self-cloning technology has made great breakthroughs in the fields of biology and medicine, the ethical issues arising from it have received high attention. For example, by summarizing, collating, and analyzing the information of talent recruitment units in recent years, it is possible to clarify the changes in the job requirements of different industries, thereby providing students with more practical teaching content and helping students adapt to their own professional characteristics and changes in the job-hunting environment. Do a good job in career planning and improve teachers' ability to link theory with practice. The establishment of teachers' big data awareness is essentially an update of educational concepts, from teacher-led teaching in the past to student-led teaching.

2.2 The Essentials that College Teachers Should Pay Attention to in Practicing "Curriculum Ideology and Politics."

Therefore, teachers of ideological and political courses must constantly learn new knowledge, master new technologies, and establish the concept of taking students as the main body. Science and engineering courses have disciplinary cultural characteristics, and have disciplinary learning knowledge, technical specifications, and practice places for applying knowledge. Teachers should be good at combining the characteristics of subject culture, make the best use of the situation, make use of the topic, and ingeniously integrate the learning process of science and engineering into the elements and purposes of ideological and political education. For example, the spirit of solidarity in scientific research. Some scientific research sites are relatively desolate. In this, we can touch people with the environment, use emotions with people, achieve a combination of knowledge and understanding, and effectively explore the comprehensive connotation of the course. They did not discover and analyze information such as student behavior and interests from the obtained big data. In these social platforms, a large amount of data information such as conversations, logs, and emails will be generated at any time. These big data can reflect the psychological state and value recognition of students. Teachers can use them to understand the state of mind of these students.

Secondly, teachers of ideological and political courses lack the ability to process big data. When teachers acquire a large amount of data, they lack the ability to filter and analyze these data, which is the performance of teachers' lack of data processing ability. This state requires teachers of ideological and political courses to improve their ability to process data information, including the ability to discover valuable information from big data and the efficiency of acquiring, processing, and utilizing data information. Marx believed that science and technology are real productive forces and a material force to transform the world. Our literature and artwork emphasize "two acts" and "double hundred", and social science emphasizes "government and education", which is the ultimate social purpose of discipline or course learning, and the "curriculum ideological and political" educational purpose of humanities and social sciences. Science is created and discovered by human beings, and ultimately serves human beings. The purpose of using science and technology to change nature is to explore a better development direction that conforms to human beings, promote the development of human society, benefit the people, and benefit the development of human beings themselves.

This is fully and vividly reflected in the courses of science and engineering, and it is also the purpose of the "course Ideology and politics" of science and engineering to practice the unity of knowledge and practice and apply what they have learned. Einstein once said: "Our problems cannot be solved by science, but by people themselves." This reflects that science and technology are in the final analysis a tool for human beings to solve social contradictions and meet their own needs. From the perspective of social application of science, we can have better guidance and education for students. We should guide them to establish correct scientific concepts, see the great role of science in promoting human development, and thus advocate science, actively innovate, cultivate a scientific spirit and innovative spirit, cultivate a good style of study, and solidly grasp scientific knowledge and skills. Teachers of ideological and political courses lack the ability to process big data. Teachers' lack of ability to

process big data will prevent them from discovering new knowledge and value from a large amount of data information.

Among the four characteristics of big data, we value the value of big data the most. Getting more value from big data is the real goal of people in the era of big data. Therefore, only finding and utilizing value in big data is the key to big data technology. In the current teaching, teachers only have simple statistics and analysis of data processing, and they cannot use the value of big data in different ways. Curriculum ideology and politics are obviously closely related to the curriculum, as well as the knowledge structure and professional skills of the curriculum. Science and engineering courses reveal the "natural principles", but those who master and use this theory have a problem with "the way of life", that is, professional ethics. Because natural science must ultimately apply what it has learned, where to apply it, how to use it, and in whose hands, it is a very significant ethical issue. It is often said that "is the use of science to open the gate of heaven or dig through the gate of hell?" The key lies in whether people who master science and technology have correct professional ethics.

3. CONCLUSION

Curriculum ideological politics is a new concept and new model of current ideological and political work in colleges and universities, and it is a theoretical and practical issue of great concern to all parties. However, there is still a lack of in-depth revelation of the scientific connotation, generation mechanism, and logical structure of curriculum ideology and politics in many discussions, which is obviously not conducive to the implementation of "curriculum ideology and politics" by professional teachers. There is no significant difference between science and engineering courses and humanities and social sciences courses. It is obviously not conducive to the work of science and engineering teachers to generalize the two and treat them as equal. Teachers of ideological and political courses use big data technology to conduct research and exploration in education and teaching practice and can also explore and expand the depth and breadth of their own knowledge, so that their educational and teaching activities are scientific and forward-looking, which are beneficial to ideological and political courses. The improvement of teachers' scientific research ability.

4. Acknowledgement

Key Topics of Heilongjiang Provincial Education and Science Planning Office《Research on the Practice of Ideological and Political Teaching Reform of Chain Management Major in Higher Vocational Education》.Subject No.ZJB1422021.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 24 – 26, 2023, ISSN:- 2319 - 7560
DOI: 10.7753/IJSEA1206.1005

Research on the Mental Health of College Students and the Inspiration of College Students' Learning Motivation

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Abstract: The mental health of college students is a sensitive issue of higher education, and the motivation of physical education reveals the mental health of college students from one side. Through the investigation, it is found that the current mental health problems of normal students are mainly manifested in the aspects of heavy learning burden, tense interpersonal relationship, psychological gap, etc., while the motivation of physical education presents the characteristics of diversification and complexity, which can continuously promote learning. Motivation is intrinsic motivation, extrinsic motivation only plays a supporting role. Only when extrinsic motivation is transformed into intrinsic motivation, and the intrinsic motivation is the main one, can students fully feel the joy of learning itself, and can actively, spontaneously, and actively participate in learning activities without too much external pressure.

Keywords: Mental Health; Learning Motivation

1. INTRODUCTION

The mental health of college students is a realistic problem faced by colleges and universities, and it is also a sensitive social problem. With the transformation of society, various problems and contradictions in the new era have had a huge impact on the mental state of college students. In addition, college students are in a period of physical, psychological, and ideological development and change. People are very satisfied, and a considerable number of college students have different degrees of psychological barriers, and this phenomenon is spreading. In recent years, under the overall atmosphere of promoting quality education, people pay more and more attention to mental health education focusing on J: cultivating students' psychological quality.

This study uses the UPI scale. Psychology is quite active in the field of human motivation research in the world, such as Atkinson's achievement motivation model, Maslow's hierarchy of needs theory, Weiner's achievement attribution theory, etc., for learning motivation. The research provides a rich theoretical basis. Domestic scholars focus on empirical research on learning motivation. Huang Xiting and others have divided the needs of college students into six basic types through investigation and research: physiology, safety, communication, respect, development, and contribution. The constructivist learning view believes that learning is the process of individuals constructing their own knowledge, which means that learning is active. A learner is not a passive recipient of stimuli. He must actively select and process external information, so it is not a process described by behaviorism. In a sense, the concept of autonomous learning originated from the constructivist learning concept. According to the school motivation model of Ryan et al., only when the social situation satisfies children's three basic psychological needs, that is, the need for competence, the need for autonomy, and the need for belonging, will students devote themselves to learning activities.

The three categories of needs are associated with three perceptions: competence, autonomy, and belonging. Competence refers to the experience of a state of mastery or achievement when an individual is challenged by an appropriate learning task; a sense of autonomy refers to an individual's experience of a state of self-determination when engaging in an activity; a sense of belonging refers to an individual's experience of In social groups, people experience stable emotional or social connections with others, as well as their own value and ability to be loved and respected. The main methods of this study are literature method, that is to use research materials obtained from literature; measurement method, that is, to use UPI scale to measure students and describe the results quantitatively, questionnaire method, that is, to compile the physical learning motivation questionnaire was used to investigate. The UPI scale and the physical education motivation questionnaire were distributed to the subjects at the same time, 1200 copies each.

Invalid questionnaires were discarded after recovery. A total of 1143 valid UPI forms were obtained, with an effective rate of 95.25%. A total of 112l effective physical education motivation questionnaires were obtained. Since the social roles played by men and women have been very different for a long time, the progress and development of modern society have had a huge impact on the social roles played by women. The expectations of college students have changed greatly compared with the past, so the difference in learning motivation of male and female college students is relatively huge. From the above survey results, girls are more self-conscious about learning than boys. The attitude towards learning is also more positive and serious than boys.

2. THE PROPOSED METHODOLOGY

2.1 A Survey of Research on College Students' Learning Motivation

The progress of contemporary society has enhanced women's awareness of independence and rights. Learning needs refer to a need that students have when they interact with the external environment due to the incongruity between the individual and the environment. and the internal needs generated by the requirements of development. For example, in the process of engaging in a certain activity, a student finds that he does not know or understand a knowledge or skill necessary to carry

out this activity. This situation is that the individual is not in harmony with the environment, and the student is born as a result. To meet the learning needs of this unknown knowledge or skills. Foreign scholars have done a lot of research on relationship support and students' sense of belonging in school education, which has a great guiding role in educational practice. Research on teacher-student relationship shows that the degree of emotional expression and psychological integration between teachers and students determines the degree to which individuals feel the need for competence, self-determination, and especially the need for a sense of belonging. Individuals receive strategic guidance from teachers or strive to achieve teachers' expectations in their academic achievements. This good sense of belonging makes them likely to devote greater efforts and perseverance to learning activities.

In physical education teaching, the learning motives shown by students are complex and diverse. But overall, there are roughly two types: one is indirect motivation, and the other is direct motivation. Indirect motivation mainly comes from students' high awareness of the significance of learning, lofty aspirations, and lofty ideals. According to the difference of consciousness tendency and consciousness level, it can be divided into 1. Good indirect motivation. Learning sports is to make yourself a well-rounded person. Because good health and vigorous energy are the prerequisites for doing a good job in study and work. Poor motivation to ask questions. Studying is for exams, if you fail the exam, you will not be able to graduate, if you get 60 points, you will be satisfied. After entering the university, the first-year students are not used to the teaching methods of the university and do not understand their professional requirements. In addition, some first-year students regard the university as the goal. Therefore, they are prone to confusion in learning, which will affect academic performance. First-year students are full of longing for university life, so their starting point of ambition will be higher than that of senior students, and they have relatively more assumptions about the future. But university life is more complicated. In addition to studying, interpersonal relationship issues have become an important issue that college students must face.

Junior college students are prone to psychological problems in this area. In the process of motivating college students to learn the driving force, a key issue is how to combine class goals with students' personal goals. Theoretically, it is necessary to create an interactive learning atmosphere of group interdependence in each class. The obvious feature of group interdependence is that they work for a common goal, and groups need to work together and supervise together. There is an active interdependence among students who work together and share the rewards of success. In this interactive situation of cooperation and supervision, each member tries his best to work for the success of the group and actively undertakes collective obligations. According to the internalization model of Deci and Ryan, the more individuals transform the externally described rules into internal recognition Sufficient, then the more self-determination of individual motivation and behavior in the expected regulation, that is, the rationale plays an important role in the behavior of internalization of motivation.

2.2 Influence of College Students' Mental Health on Learning Motivation

According to cognitive appraisal theory, any external event can be communicated in an autonomically supportive manner, and facilitate autonomous forms of motivation, or in a controlling manner, and thus hinder autonomous forms of motivation. Thus, it is not the reason itself that nourishes the experience of identification, but the means of autonomic support that governs the reason. As many as 70% take the initiative to participate in sports competitions organized by collectives. It shows that college students care about the collective and have a sense of collective honor. No matter |: field or not, they all have a mentality that focuses on participation. Everyone can put aside the usual resentment, estrangement, and distance on the field, and have fun together. This plays an important role in promoting students' mutual understanding, cooperation, and communication, especially for students who are prone to emotional reactions to setbacks, they can be diverted by participating in sports, thereby reducing, and eliminating emotional barriers. Tiao Xing shows that 90% of the students can't help shouting, cheering, and cheering when watching sports games.

The root of helping students overcome the identity crisis is to enable college students to establish correct "three outlooks". This is not only to make college students understand what is a scientific world outlook, outlook on life and values in the classroom, but also to carry out practical activities, such as visiting Visit, watch videos, speech contests, club activities, etc., educate, inspire and guide them in social practice, use a correct outlook on life to think about and deal with issues such as honor, disgrace, gains and losses, and wealth and poverty that they face in life.

And use correct values to handle the relationship between individuals and others, individuals and society, and the country. To effectively solve the mental health problems of college students, it is necessary to conduct research on such problems in an organized and H-Eq manner. At present, China’s colleges and universities do not pay enough attention to the mental health problems of contemporary college students, which has caused the mental health problems of college students to become increasingly serious.

Each school should organize special research forces to conduct research according to its own situation and characteristics, to ensure that the mental health problems of college students can be studied and effectively solved in a timely manner and improve the mental health of college students. In addition, it is necessary to formulate an index system that is in line with the situation in our country and conduct a scientific and reasonable assessment of the mental health of college students. Learning interest is an important psychological component of learning motivation, and it refers to the internal motivation of learning activities themselves. If each student can learn the major, they are interested in, then their learning motivation will be relatively easy to cultivate and improve. Due to fierce competition, many candidates have the phenomenon of professional adjustment. This may result in not knowing the major you want to study and not being interested.

3. CONCLUSION

University education should provide college students with a variety of cultural and recreational activities and sports activities and encourage students to participate in such activities. Participating in activities, receiving education in activities, and releasing emotions and emotions are what college students need for their healthy growth. On the one hand, this can enrich the school culture and optimize the educational environment, and on the other hand, it will also have a positive impact on the healthy growth of individual students. The intermediary mechanism of the interaction

between trait motivation and situational motivation in the context of autonomous support to promote internalization is still unclear, and the socialization process of internalization of extrinsic learning motivation and the construction of theoretical indicators of motivation internalization still need to be studied; The research field of motivational orientation and related influencing factors is gradually expanding, and there will be more related researches.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 27 – 29, 2023, ISSN:- 2319 - 7560
DOI: 10.7753/IJSEA1206.1006

Construction of University Sports Health Management Information Platform Based on School-Enterprise Collaboration

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Abstract: The construction of sports health information in colleges and universities is a trend in recent years, which is conducive to the centralized management of students' health in colleges and universities. Based on the school-enterprise cooperation and the reality of colleges and universities, this paper implements a web-based sports health management system for college students. Using this system, it helps college teachers and managers to understand students' sports health more clearly. This paper analyses the basic technology, basic frame and basic method used in this system. It can meet the needs of colleges and universities for student sports health management. It is imminent to establish a set of information management system that integrates management, query, guidance and sports health promotion for students' physical fitness test and club exercise and other scientific management models. Using the method of literature, expert interview and programming, the information resources of various functional departments of the University of Science and Technology of China are integrated, and a basic platform in line with the information management and development of physical education teaching in colleges and universities is constructed.

Keywords: Sports Health, Management Information Platform, School-Enterprise Collaboration

1. INTRODUCTION

With the comprehensive advancement of my country's informatization process, the informatization process in various fields is developing rapidly, and more Internet application platforms will be applied in our campus life. These applications not only improve the quality of our campus life, but also It is helpful for our healthy study.

Based on this concept, the college student sports health management platform provides convenient management for students and teachers, reduces school operating costs, and simplifies the process. Using the college student sports health management platform allows teachers to analyze the data of students and understand the health of students. To facilitate the specific supervision of students The goal of building a college student sports and health information system platform: 1) To ensure the standard interface of the national database, which can assist the "China Student Physical Health Monitoring Network". 2) The system realizes the interconnection with the Academic Affairs Office, the Youth League Committee, and the school network center, which is convenient for the rescue management of the educational staff, and realizes the card-swiping attendance system for students to exercise after class, participate in clubs, and physical education classes; 3) Use the network to record all sports-related information during the student's college period, including physical education class scores, club activity records and results, such as attendance, points competition results, etc., rankings in and out of school sports competitions, physical fitness test results, etc. Based on the "Internet +" model of college sports management information construction is "Internet + college sports management", that is, relying on Internet technology to build a college sports management information system to realize college sports management information.

In the context of the information age, the connection between information technology and management will become increasingly close, which also prompts the sports management departments of colleges and universities to accelerate the construction of sports management information. In recent years, China academic circles have given some attention to the development of sports informatization, but the existing research is mainly normative analysis, and less empirical research. In view of this, this paper conducts a field investigation on the sports informatization work in Jiangsu, and conducts an empirical analysis of the current situation, development prospects and influencing factors of sports informatization in Jiangsu Province, to grasp the needs of my country's sports informatization organization and system innovation at this stage, Motives, and paths of action.

HTML+CSS+JavaScript is the interrelated technology of structure, performance, and behavior. HTML is a hypertext structured standard language. The structure of the basic front-end web pages of this system is written in HTML language. CSS is an expressive standard language. The system controls the design through CSS style, and then use JavaScript to respond to the system and control behavior. Restoring system performance: standard interface, sports performance management, club activity pre-coupling and performance management Functions such as student physique test reporting system interaction, physical health screening and supervision, data management, information release and student assistance query, statistical analysis and evaluation guidance, and data output.

2. THE PROPOSED METHODOLOGY

2.1 Current Situation of Sports Health Informatization Management in Colleges and Universities

The overall evaluation is the conclusion drawn by the system based on the comprehensive analysis of the above data. It not only accurately reflects the students' physical exercise and physical condition every semester, but also can carry out targeted exercise prescription processing according to the individual situation of students, to obtain the function of

supervision and promotion. This requires college sports to change the existing management model. In the construction of traditional information management systems, C/S technology is mainly used. However, with the continuous development of big data, the limitations of this traditional architecture model are becoming increasingly prominent. The new B/S model is more and more widely used in the construction of information management system because of its outstanding advantages. The so-called C/S mode, Lu Chunyan and Sun Juan pointed out that it is a client-server mode, which is mainly divided into two levels, namely, the client layer and the server layer. The server layer mainly needs to process data in the background and control the system. For maintenance, the client layer is mainly responsible for the foreground display and the interactive work with the user.

In terms of the working principle of this mode, the user sends a certain data request to the client based on the system client, and then responds to the client's data request under the cooperation of the client and the server. 76. 9% of sports information technicians believe that the current construction of sports informatization is helpful to improve work efficiency, 84. 6% of the sports information technicians believe that new technical means will be able to play a good or very good effect. However, most interviewees do not understand the distribution of information collection terminals in public sports venues in their cities represented by video surveillance equipment, and then cannot obtain rich monitoring information, and cannot form corresponding statistical analysis data. Civic service.

First of all, it has a good interactive experience: users do not need to refresh the page again, and the data is obtained asynchronously through Ajax, and the page display is smooth; secondly, it has a good separation mode of front-end and back-end work; it can also reduce the pressure on the server; thirdly, it can share a set of back-end Program code. It can be used for multiple clients such as web interface, mobile phone, and tablet at the same time without modifying the back-end program code. Several user controls are defined in the Web project in the information system, which are mainly used to realize the management of basic information of students, management of student appointments, management of student physical education grades, management of attendance and grades of student sports club activities, management of student's 4-year physical fitness test data, information query evaluation system management and other functions. System software and hardware environment: hardware configuration. Based on the B/S model, the college sports management system will integrate the college sports teaching course management system, college sports information data management system, college sports network resource management system, college student information performance management system and college sports scientific research. The activity management system and the college sports substantial force management system are a hierarchical flat sports information management system. The goal of sports development is to better provide the public with satisfactory sports products and services. The degree of matching between sports informatization and public demand can most intuitively reflect the effectiveness of sports construction.

2.2 Overall structure of college sports health management system based on school-enterprise cooperation.

Judging from the current development status of sports informatization, there is still a large gap between sports information services and public demand, which is mainly manifested in the following three aspects: The ability of coordinated development is poor. The sports informatization management organization is low-level, does not pay attention to the cultivation and stability of the sports informatization talent team, lacks the necessary follow-up funding guarantee, the management, operation layer, and implementation layer are not very enthusiastic or have inconsistent understanding of sports informatization construction, and there is no The system or mechanism to organize and coordinate the relationship between the government, sports departments and the masses leads to the lack of sustainable development momentum in the construction of sports informatization. The physical education classroom management function is mainly used to record the situation of each student in the physical education classroom, which is conducive to the centralized and unified management of physical education teachers. Teachers can use this module to upload students' classroom grades and final grades, modify teacher and student information, and print student rosters and transcripts, feature rich.

Data maintenance for managers includes data import, such as adding, deleting, modifying, and exporting basic student information, physical education grades, and basic physical fitness test information. The DataGrid control in NET can easily realize data selection, sorting, deletion, and update operations, etc. The background management makes comprehensive use of system data and comprehensively analyzes the horizontal and vertical data of students. Horizontal information includes student gender, place of origin, department, age, etc., and longitudinal data is to analyze individual students or a certain type of students participating in physical exercise, training, competition, club exercise, physical fitness test results and physical health in different time periods. The organic unity of functionality and humanization in the sports management system of colleges and universities is mainly related to the selection of the system architecture.

When developing and designing a system, the user's requirements are composed of two major categories, one is the user's requirements for the architecture, and the other is the user's related requirements for business functions. In terms of the college sports management system, the user's requirements on the structure become the core issue in the development and actual use of the system. In terms of the composition of the architecture, the most critical link is the data storage layer, whose main task is to extract and analyze big data according to user instructions. Pursue intelligent, virtualized, and service-oriented management models. Change the thinking of traditional sports management and development, use smart technology and virtual technology to realize the intelligent operation of various sports resources, such as smart stadiums, remote sports monitoring and guidance, cloud sports prescription services, etc.

Sports functional departments need to change to the direction of digital service information, to achieve efficient, harmonious, and healthy development of various sports undertakings. This module will realize the function of recording and viewing the results of the students' four-year physical fitness test. The physical fitness test is an indispensable compulsory course for college students, so the function of assisting students to complete the physical test is particularly important. The system can provide standard data for students Check the exercise, when the students take the test, the physical fitness test results will be uploaded to the

system, which is convenient for the school to count the students' physical test situation, and it is also convenient to reflect the health status of the students. Data management and maintenance also requires data accuracy, integrity, and consistency. Since the information of the database is shared, the independence of each module must be maintained in actual operation.

3. CONCLUSION

This article is a basic description of the design and implementation of the college students' sports health management system. It mainly elaborates the requirements analysis, implementation technology and implementation methods of the entire system. This article also analyzes the database design required by the system platform to improve the quality of college students standardize and scientific physical fitness testing, improve the supervision system of physical fitness testing, mobilize students' enthusiasm for participating in sports activities, and promote students' physical health. At the same time, use the system docking of multiple functional departments on campus. It is more effective for formulating and implementing intervention measures to improve students' physical fitness. Exercise 1h every day and live a healthy life for a lifetime" is deeply rooted in the hearts of college students.

4. ACKNOWLEDGEMENT

The Ministry of Education's Industry School Cooperation Collaborative Education Project : Construction of an information platform for sports and health management in universities based on school enterprise collaboration（220606030130855）

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 30 – 32, 2023, ISSN:- 2319 - 7560
DOI: 10.7753/IJSEA1206.1007

Research on Peer-to-Peer Algorithm of Sports Information Resource Sharing Based on Distributed Private Cloud Service

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Abstract:Based on private cloud, Docker container technology, open source monitoring component Prometheus and open source visualization component Grafana, we design and implement a distributed, multi-level cloud monitoring system that supports centralized configuration management and alarm function. This paper expounds the current situation of the integration, sharing and utilization of sports information resources in colleges and universities, analyzes the necessity of integrating and sharing utilization of sports information resources in colleges and universities, builds a management platform for the integration and utilization of sports information resources in colleges and universities, develops and optimizes and integrates these sports information resources scientifically and rationally, and establishes an efficient, The perfect sharing operation mechanism and the use of informatization to drive college sports teaching put forward the countermeasures and suggestions for the integration and sharing and utilization of college sports information resources.

Keywords: Peer-to-Peer Algorithm, Sports Information Resource Sharing, Distributed Private Cloud Service

1. INTRODUCTION

Since 2006, my country's cloud computing industry has experienced three stages of concept introduction, basic research and integration of production, education, and research in terms of technology development, and has experienced three stages of concept popularization, market cultivation and monopoly formation in business practice [1]. The developmental stages of technological development and business practice correspond to each other. Big data and cloud computing have become research hotspots in all walks of life, and their related application products and services have gradually entered people's lives [2]. Cloud computing mainly focuses on the virtualization and parallel processing of computing resources [3].

With the in-depth advancement of the industrial and commercial informatization construction process, the industrial and commercial informatization construction must pay more attention to the intensive integration of systems, cross-departmental and cross-regional collaborative interaction, and resource sharing, so as to better support the industrial and commercial administrative departments to perform their functions and improve the efficiency of government affairs [4]. Effectively solve key problems in economic and social development. For sports informatization, it has become the embodiment of a country's comprehensive strength of sports, and its key factor and important symbol is the integration and sharing of sports information resources [5].

The effective integration of sports information resources not only helps to achieve the maximum sharing of sports information resources [6]. The main goal of the integration and sharing of sports information resources is to provide users with high-quality services and guarantees of sports information resources and improve the utilization of resources [7]. However, at present, the situation that sports information resources are partially ordered and disordered is becoming more and more serious. Some comprehensive sports portals mainly report sports news [8]. In 2016, the total number of participants reached a record high of 2.8 million. Quarterly events are held one after another, and the distance of the events is appropriately set according to the different needs of the masses. The eastern part of my country is the region with the most marathon events. With the popularization of the Internet, the tide of information on the Internet is surging [9].

A large amount of data and information has become readily available, and information demanders can log in to the Internet to search for the information resources they need [10], but everything has two sides, and resources must operate normally. The operation of the whole society is a system of various a necessary condition [11]. The concept of associated information itself and the concept of resources, we can define the concept of sports information resources as: a generalized understanding of sports information resources is the general term for all kinds of sports activities [12].

Resources must function properly for the functioning of society as a whole and are a necessary condition for systems of all kinds [13]. The concept of associated information itself and the concept of resources, we can define the concept of sports information resources as: a broad understanding of sports information resources is the general term for all kinds of sports activities, including related funds [14]. People urgently need a powerful technical means to realize real-time understanding and rapid operation and maintenance of private cloud business operation status, infrastructure, resource usage and other aspects of information. In this context, cloud monitoring technology has become one of the key research topics in the industry [15].

When the core of cloud computing system operation and processing is the storage and management of a large amount of data, such a cloud computing system is transformed into a cloud storage system [16]. Therefore, cloud storage is a system that pays more attention to data storage and management under the architecture of cloud computing. Since the development of industrial and commercial

informatization, many IT systems have been built, and these systems are of different sizes, different uses and independent of each other, so there are many problems in the construction of business platforms [17].

College sports information resources cover sports scientific research literature, sports historical materials, various sports competition results, sports technology analysis, various sports activities, sports organization information, etc. Although the Internet has a large number of resources for physical education, sports and fitness, and related information can be inquired through search engines, most of these sports' information resources are scattered and fragmented and contain too much useless information. In-depth interview with Beijing-Tianjin-Hebei Sports Experts and scholars from colleges, sports institutes, and sports collaborative development projects listen to their opinions and suggestions on the co-construction and sharing of Beijing-Tianjin-Hebei competitive sports information resources [18].

2. THE PROPOSED METHODOLOGY

2.1 The Distributed Private Cloud Service

Cloud computing system When the core of computing and processing is the storage and management of a large amount of data, such a cloud computing system is transformed into a cloud storage system. Therefore, cloud storage is a system that pays more attention to data storage and management under the framework of cloud computing. The complete Docker engine consists of the following four parts: Docker Client, Docker Daemon, Docker Image, and Docker Container. Among them, Docker Client is the client program of Docker, and the released version widely supports mainstream operating systems; Docker Daemon is the core part of the Docker architecture and exists in the form of a daemon process.

When the business volume peaks, resources can be dynamically recovered, thereby realizing dynamic elastic scaling of computing resources. This feature of the cloud platform solves the tidal effect of access to the national enterprise credit information publicity system. Information resources are a developing concept, and information resources include not only document resources, but also many other elements related to information resources. Xiao Hong's definition of sports information resources is defined from two aspects, the first is a narrow concept. The demand analysis introduces the expected goals that the system should achieve from the four dimensions of function, performance, data, and users; the overall design is based on the system outline design diagram. Detailed design of the main line. Based on the architectural features of the private cloud, the cloud monitoring system should fully cover the three-layer monitoring of IaaS, PaaS, and SaaS. Among them, IaaS layer monitoring refers to the monitoring of infrastructure performance and availability.

PaaS layer monitoring refers to monitoring the performance and availability of underlying platforms and services. Public cloud storage is an act of commercializing storage services. User data is usually stored on multiple virtual servers hosted by third parties, rather than on dedicated servers. Users who rent virtual cloud storage cannot know the specific location of cloud storage and whether user data is safe in the cloud. College sports information resources cover sports scientific research literature, various sports activities, sports event results, sports literature and history, sports technology analysis, sports Organizational information, many sports information resources, especially the rapid development of sports network information resource.

2.2 The Sports Information Resource Sharing

Data visualization for different users refers to the control of data open permissions for different user functions. This article will open the monitoring data of infrastructure resources and platform service resources with the user role of cloud operation and maintenance personnel. The cloud computing service system has strong compatibility, high flexibility, high-cost performance, and high scalability, and reduces operating costs through scale effects. At the same time, through the construction of shared database information resources, the mass of sports information resources, many information producers and publishers, many redundant information, junk information, etc. will cause chaos and disorder of sports information, which will seriously affect the normal use and sharing of sports information resources. At the same time, it will greatly waste the time and energy of sports information users.

In the process of dissemination of sports information on large-scale portal websites in my country, the degree of information correlation is not stable, the degree of information fragmentation is high, a large amount of old information is deposited, and some new sports information is often covered by it, which makes it impossible for users to query new information. Require. Through the form of "multi-party co-construction and resource sharing", build a "Beijing-Tianjin-Hebei Competitive Sports Information Resource Database". Relying on the cutting-edge technology platform for building a database that conforms to relevant standards and has good compatibility and expansion functions, the Beijing-Tianjin-Hebei competitive sports information resources with rich content and various resource forms (including text, pictures, audio, and video, etc.) will be integrated and released.

2.3 The Research on Peer-to-Peer Algorithm of Sports Information Resource Sharing

In addition, the teaching of e-commerce major should deepen exchanges and cooperation with enterprises, establish long-term cooperative relations with enterprises, deepen the process of school-enterprise cooperation, and establish a good training base, so that students can have a good understanding of enterprises in the training. Learn about specific requirements. Under the guidance of the school-enterprise collaborative teaching model, the company sends engineers with rich project practice experience to the school to carry out teaching, while the school organizes students to participate in the training and practice of engineering projects in the company [the existing anonymous communication scheme exists huge overhead and difficult to use in distributed storage systems.

To this end, this chapter proposes an anonymous communication scheme (MIC, MimicChannel) based on a global routing conflict avoidance mechanism for the SDN-based data center environment. There is no fixed method in teaching, and there is no constant form in learning. In the implementation process of smart courses, it is necessary to combine specific teaching objectives, teaching content and teaching objects, and innovatively design the corresponding teaching methods. Consider the characteristics of students of different majors and grades, and then determine the

corresponding teaching content, process, and assessment methods according to the actual situation. Under the new situation, the ideological and political work in colleges and universities faces new environment, new problems and new challenges

3. CONCLUSIONS

This paper fully studies a variety of different types of private cloud monitoring requirements, and extracts common requirements as goals, including multi-level coverage based on cloud computing architecture, support for custom customization items, alarm diversification, and dashboard customization. Compared with the independent construction model of thematic literature database, it is difficult to realize the resource sharing barrier formed by the use of different technical means and database construction systems in the multi-party independent construction. Relying on the commonality of industries and disciplines, actively seeking a co-construction, and sharing model of multi-party cooperation and collaboration is the preferred way to integrate competitive sports information resources.

4. ACKNOWLEDGEMENT

The Ministry of Education's Industry School Cooperation Collaborative Education Project : Construction of an information platform for sports and health management in universities based on school enterprise collaboration（220606030130855）.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 33 – 35, 2023, ISSN:- 2319 - 7560
DOI: 10.7753/IJSEA1206.1008

Research on Online Foreign Language Teaching Based on CBIR Algorithm of Internet Deep Information Retrieval

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Abstract:This paper proposes a novel content-based image retrieval CBIR algorithm model, and also proposes a novel clustering retrieval method suitable for image data, which improves the clustering accuracy by automatically updating the weights of cluster features, thereby improving the retrieval effect. It aims to build a reasonable online teaching model, effectively guide foreign language online teaching in colleges and universities, provide reference for mixed teaching research, and promote students to improve their comprehensive foreign language skills and optimize their learning outcomes. The changes in the grades of the experimental class were also analyzed separately, and the results of the experiment were supplemented by post-study questionnaires and interviews.

Keywords: Online Foreign Language, Language Teaching, CBIR Algorithm, Internet Deep Information Retrieval

1. INTRODUCTION

The retrieval of the traditional CBIR system is to return the results according to the similarity of the underlying features. Often [1], there are some images in the front that although the underlying visual features are very similar, their semantic content and the retrieved images are different. match. Image retrieval [2] is developed from text information retrieval technology. Due to the differences between the characteristics of images and texts, many successful indexing techniques in text retrieval [3] technology cannot be applied to image retrieval. in-depth research. The research of image retrieval is divided into two categories: Text Based Image Retrieval (TBIR) and Content-Based Image Retrieval (CBIR) [4].

Text-based image retrieval mainly uses text annotation to describe the content of the image as a whole [5], that is, the keywords of the image. Education informatization promotes education development, and fair development of artificial intelligence will gradually change the spatial [6] limitations of high-quality educational resources, making it possible to share high-quality educational resources across regions, and promoting the universal [7] sharing of high-quality resources. Most image search engine websites, such as Google, Baidu, etc. generally use this method [8].

However, there are two major problems in this image retrieval technology: First, it is time-consuming and labor-intensive to manually [9] label images, especially in the face of massive image databases, the workload of manual labeling is huge. In this model, an improved clustering algorithm (Improved Cluster for short IC) [10] is used, and the semantic retrieval is combined with the retrieval of the underlying visual features, which improves the accuracy of image retrieval. Then, document analysis technology is used to realize image retrieval [11], but because of the vector quantization method used in defining key image blocks, the independence between key sub-blocks cannot be guaranteed. And the algorithm for generating the codebook is complex and time-consuming, thus affecting the final retrieval effect [12].

The early studies of these CBIR systems mainly focus on retrieval by extracting rich visual features (eg, color, texture, and shape) of images [13]. Following these earliest studies, there are some other studies such as Ju Han and Kai-KuangMa [14] who proposed a method to blur color histograms. Artificial intelligence technology is widely used in English teaching, and has been able to undertake some of the teaching functions of teachers [15]. How teachers work with intelligent teachers to improve English teaching in junior high schools. As the main body of learning in colleges and universities, students can make full [16] use of network information and new media technology to strengthen online foreign language learning, carry out online cultural exchanges, optimize learning results, and promote the development of comprehensive abilities [17].

The application of example technology in the field of image retrieval has been deeply studied, and the multi-example technology is applied in the fields of image annotation [18], image retrieval and face recognition to realize image retrieval based on object semantics. The significance of the research is mainly. The development process of the flipped classroom can be divided into three stages [19]: from the budding stage to the conception, to the slow development stage and the rapid development stage (Zhang Wei, 2017). Therefore [20], the author will use time as the main line to sort out the foreign flipped classroom in detail. literature and review. The CBIR model proposed in this paper covers image retrieval and automatic semantic annotation.

Divided into two different cases, two different retrieval methods based on visual content and based on semantic keywords are carried out. Its basic structure is shown in Figure 1. We must also pay attention to the internal laws of foreign language teaching [21], clarify the relationship between language and culture, and teach language from a cultural perspective. Starting from the relationship between language and culture, this paper explains the importance of cultural introduction in [22] online foreign language teaching, combined with case analysis and the current situation of online foreign language teaching during the period of delayed start of school due to epidemic prevention [23].

Based on this, this paper proposes an image retrieval algorithm based on text retrieval technology. Combined with

the visual characteristics of the human eye, image sub-features that are meaningful to characterize the image content are constructed [24]. Because traditional low-level features are not only relatively cumbersome to extract, but also relatively complicated to follow-up processing of features, which brings great inconvenience to content-based image retrieval. However, the current popular hashing method has defects in data storage and calculation, so this paper proposes a method based on CNN and graph theory for image retrieval [25].

2. THE PROPOSED METHODOLOGY

2.1 The Internet In-Depth Information Retrieval

Users need to submit semantic keywords and example images for querying. According to the example images, the database images without the keyword annotation are searched based on the visual feature sub-module, and the database images that have been marked with the keyword are semantic-based Keyword Retrieval. Block encoding is an effective and fast lossy digital image compression technique. It is easier to implement than vector encoding, and the algorithm is simple and preserves the edge information of the image. Since the visual information sensed by the sensory cells of the human cerebral cortex is directional, and the convolutional neural network can extract more abstract image features, it is widely used in the CBIR system.

The basic principle of convolutional neural network is: given an image library, given a convolutional network model, optimize a cost function to train optimal weights, and extract image features through optimal weights. It is unrealistic to manually annotate the massive image data on the Internet. With the continuous maturity of information retrieval technology, automatic collection and indexing of web page information, as an important part of search engines, has been deeply studied and widely used in text search engines. Another case is the semantic retrieval module (Fig. 1), which targets already semantically annotated images. The retrieval in this case is relatively simple, and the results can be returned directly according to the confidence of a certain semantic order, which is similar to the ordinary keyword-based retrieval. Suppose I is a grayscale image of size M×N.

First, divide J into non-overlapping sub-blocks of m×m size. For each sub-block, calculate the average grayscale value and average color difference of the pixels in the block. Then according to the idea of block coding, VGG-net can be said to be a deepened version of Alex-net at the network level. It includes 5 network structures, called A, B, C, D, E, and each network structure has different The number of network layers, and the number of network layers from A to E gradually increases, namely: 11, 13, 16, 16, 19 layers. VGG-net and Alex-net are similar in overall structure. Vector Space Model (VSM) is widely used in text mining. Based on this model, the potential concepts of text and the relationship between concepts can be discovered. Discover hidden knowledge. Usually calculated by the TF/IDF formula.

2.2 The Information Retrieval CBIR Algorithm

Therefore, in the algorithm, a threshold is set. When the average color difference of an image block is less than this threshold, the block is regarded as a uniform block. The content-based image retrieval is mainly through the user inputting a picture, and then from the image library The process of finding images similar to the input image and recommending them to users. The learning system builds a model by learning on packages of already labeled categories, hoping to predict the concept labels of unknown packages as correctly as possible. Due to its unique nature, multi-instance learning has attracted the attention of scholars and is considered to be the fourth learning framework alongside supervised learning, unsupervised learning and reinforcement learning. Content-based image retrieval firstly uses the corresponding feature extraction method to extract the features of the images in the image library, and establishes the index between the image library and the corresponding features.

For a given query image, take the cluster center image of each cluster as the core, and calculate the distance between each image and the cluster center according to the image distance formula with the feature weight adjusted. The images are clustered based on the minimum distance criterion. Based on the above evaluation criteria, two different sets of comparative experiments are carried out.

2.3 The Research On Online Foreign Language Teaching

First, experiments are conducted on the effect of different block methods on the retrieval performance of the algorithm when extracting sub-features. When extracting sub-features, the block method, that is, the selection of sub-block size, directly affects the effectiveness of image content description.

Teachers can record micro-lectures about Baby boomers, Generation X, and Millennials before class, and publish them to students through the Internet. Students can express their views on the groups these words represent and the origin of these names in the Q&A discussion forum. In the experiment, when using formula (2) to measure the similarity, we take one mouth and one 0.5, so that the similarity of the number of features and the similarity of features are equally important.

Since VGG-net [11] has achieved good results in the classification of ImageNet in 2012, this paper uses the VGG-net model to extract image features, but the feature dimension extracted by VGG-net is higher, in order to better Using the feature space, the feature is firstly dimensionally reduced by kernel principal component analysis. Although the school does not open, it does not stop, and it is possible to teach courses at a distance. The advancement of information technology and network platforms provides a great possibility for the education circle of our country to face the education dilemma of isolation and home. The multi-modal online output of foreign language teaching can break through the time limit of traditional foreign language classes. Teachers can send homework reminders to students and monitor students' learning progress and knowledge mastery at any time.

Through the online interactive platform, a multi-modal online discussion is conducted with students on a certain issue, and students can submit texts to teachers individually. However, the scores of the experimental class were higher than those of the control class, indicating that the English writing score of the students in the experimental class after the study was significantly higher than that of the students in the control class after the study, indicating that flipped classroom teaching can significantly improve the students' English writing scores. In order to test the complexity of the algorithm in this paper, the algorithm in this paper is compared with the other two methods in terms of the time complexity of feature

extraction and the time complexity of image retrieval under the same hardware and software environment.

3. CONCLUSIONS

Big data has brought new ways for colleges and universities to innovate education management models. Colleges and universities should arrange all-round campus perception terminals on the basis of campus informatization construction. Sort out the correlation between different behaviors and draw students' "student portraits" in school. , clearly describe the situation of students in school, and analyze the relationship between students' learning situation, life status and also psychological dynamics. Clean, integrate, mine and apply massive, heterogeneous and multi-dimensional campus data, and extract potential, valuable, and potentially valuable information from it.

4. ACKNOWLEDGEMENT

Topic: Key Project of the Comprehensive Reform Research and Practice Project of Postgraduate Education in Shaanxi Province, "Research on the Innovation of the 323 Classification and Interactive Training Mode for Postgraduates with a Degree in Liberal Arts in Colleges and Universities", Project Number: YJSZG2023111.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 36 – 38, 2023, ISSN:- 2319 - 7560
DOI: 10.7753/IJSEA1206.1009

The Application of Wisdom Philosophy Theory Retrieval Algorithm in College Psychology Online Education Interactive Platform

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Abstract:This paper aims to explore the functional design, application analysis and prospect of students' mental health work based on the existing WeChat platform of the college. First, based on the philosophy of wisdom, in the teaching process of constructing the dynamic generation of the theoretical retrieval framework, the logic of "seriousness" and "identity" of disciplinary philosophy also permeates the construction of "smart courts" that "regulate judicial behavior and unify judicial scale" of the various methods used. Judging and promoting social governance". Then, with the help of the development and effective implementation of Internet online education, the characteristics and advantages of online micro-course teaching are discussed, and the application value and implementation methods of micro-college psychology teaching in postgraduate mental health education are discussed.

Keywords: Wisdom Philosophy Theory, Theory Retrieval Algorithm, College Psychology, Education Interactive Platform

1. INTRODUCTION

For contemporary college students, new media has become an indispensable part of their lives. The lifestyle, thinking habits, personality formation, consultation and collection of contemporary college students have undergone qualitative changes under the penetration of new media [1]. Compared with the undergraduate group The pressure of college graduate students from scientific research, employment, economy, love, marriage and family, and physical health makes the pressure of college graduate students increase day by day, which is easy to stimulate psychological problems. The essence of research is the rational use of large amounts of data [2].

It has the characteristics of massive data models, fast data flow, complex data authenticity, and low value density [3]. Through online education, teachers and students can cross the limitations of time and space, share learning resources with a high degree, and can conduct two-way interactive and autonomous learning [4].

However, in the research on teaching interaction at home and abroad from the perspective of big data and cloud computing, many scholars have given various explanations and descriptions of interaction [5], among which the more typical definitions are: American scholar Merrill (Merrill) From the perspective of the characteristics of the process, it is believed that "interaction in learning is between the teaching system and the learner [6]. While people collect information at anytime and anywhere and record and share it in text, audio, video, image and other forms, on the one hand, it brings with the rapid expansion of multimedia information, how to achieve time-spanning Internet information is not only huge in massive information, but also has four very extensive and intricate cross-correlations [7].

Cross-correlation between Internet web pages. The cross-correlation of entity objects such as links, names, topics and events contained in or between web pages has been baptized by the new curriculum reform for more than ten years [8]. The overall appearance of classroom teaching in primary and secondary schools has been greatly improved. Compared with the past, classroom teaching in primary and secondary schools in my country has undergone great changes in terms of teaching methods, teaching methods, educational concepts, and techniques [9]. Based on the dual structure of the coupling of political and legal functions presupposed by the "political and legal" tradition, the construction of the subjectivity of the court inevitably presents a dual role due to the dual differentiation of politics and law in functional logic. The "dual personality" Chinese teaching should be an educational activity related to life growth [10].

Therefore, as a language teacher, we must have the teaching wisdom to rejuvenate life and lead the growth of life. This article intends to focus on Bergson's philosophy of life [11]. Combining with the life characteristics of the Chinese subject, it is discussed that due to the strong openness of new media information dissemination, high flexibility and speed, the richness of variability and equality, and the improvement of autonomy, the mental health education of college students under the new media platform has changed. opportunities and possibilities [12]. However, for a long time, the mental health education of postgraduates in colleges and universities has not been paid enough attention, and it has been in a relatively weak situation. First of all, in the mental health education courses generally set up in colleges and universities, the daily teaching objects do not include graduate students [13].

Cloud computing is a type of distributed computing, which is to decompose a huge data computing processing program into countless small programs through the network "cloud" [14], and then process and analyze these small programs through a system composed of multiple servers. Program cloud computing mainly uses the huge computing processing power in the Internet to automatically split the program to be processed into countless smaller subprograms [15], and then transfer many subprograms to a huge system composed of multiple servers. American scholar Moore (Moore) believes that "interaction is a two-way communication between two or more individuals in a learning environment to complete a learning task or establish a social relationship" [16].

With the rapid development of science and technology, online education interaction has become an important direction of online education research [17]. Therefore, many scholars have focused on analyzing the online education interaction platform model based on big data, and also studied the current situation of the contemporary students' online education interaction [18].

2. THE PROPOSED METHODOLOGY

2.1 The Wisdom Philosophy Theory Retrieval Algorithm

The impulse of life is the source of the evolution of all things. This thought is the ontological theory of Bergson's philosophy of life. Bergson believed that the entire universe is a process of continuous creation and evolution. This leads to a significant difference in time awareness between politics and law when dealing with current action countermeasures: in a legal communication with a diachronic character such as "legal/illegal", "present" is both "past" and "eternal". future"

Every intake reproduces within itself those general characteristics of what actually exists: it points to an external world, and in this sense has a 'vector character'; it includes emotion, purpose, evaluation, and Causal relationship. The above-mentioned cross-correlations make Internet data present cross-media characteristics, that is, there are strong or weak content spanning and semantic correlations between web pages, multimedia data and user interaction information on the Internet. It is the crystallization of the life wisdom of the author's cognition and emotion fusion, and the unity of sensibility and rationality. In sharp contrast to it, the effective communication of "power/no power" in the political system has the distinctive feature of "time does not wait for me" is the so-called "right to use it, and it will be invalid after expiration". Once politicians step down, they will "go for tea and cool down." In process philosophy, reality is the cells that make up all things in the universe, and all things in the universe are one Relational beings, "actually they include each other because they ingest each other."

The generation and development of things are carried out in the relationship with other things through ingestion. Express the concept of an item through various types of data such as text, images, videos, and maps. Aggregate information such as abstracts and themes contained in different types of data through machine learning and data mining techniques, using user annotation and feature extraction methods, combined with the time and location perception of the mobile terminal in the real world, less description information or feature information is submitted, which lowers the threshold for information and content sharing. Randomly create new teaching situations, introduce new and relevant information in a timely manner, and improve and generate new teaching goals. In teaching, we should openly accept unexpected information, and adjust the predetermined teaching links and steps according to specific teaching situations.

2.2 The College Psychology Online Education Interaction

Starting from the relationship between learners and the situation, Rose believes that "interaction should be an information-rich situation, and this situation can give learners a higher level of operational rights and control rights". For colleges and universities, the main purpose of conducting online education interactive activities is to provide corresponding high-quality and high-ability talents for the current needs of various industries in society.

Of course, the education platform cannot be without teaching materials. For this new interactive online education, relevant personnel should also create a new generation of re-arranged and designed teaching materials on the basis of traditional paper-based teaching materials, and then use intelligence. equipment out. Teaching on the WeChat public platform can reach more groups and audiences. All learners subscribe to the WeChat public platform account and content. According to the survey, after the current college students pay attention to the WeChat public account, they lack a clear understanding and understanding of the functions of the original WeChat public account and the expanded public account function. According to the terminology, Chinese scholar Chen Li the practical significance of distance education teaching and learning, using the internal criterion method to define "teaching interaction" as "teaching interaction is an event that occurs between students and the learning environment.

Cloud computing technology has great advantages in network applications, and its advantages are as follows: First, virtualization. Cloud computing can add basic resources for case comparison. Among the online education interactivity based on big data and cloud computing perspectives, the development of mobile interactive digital teaching materials can provide students with a lot of information and feedback and can implement interactive teaching. By carrying information on different sections of the WeChat public platform and pushing the information directly to individuals to provide personalized services, You Bing is in a society that focuses on practical operation. The promotion of the platform should be strengthened, including the increase in the binding rate of the real-name system for students, the promotion of function promotion and the increase in the application rate, and the channels that can be used include promotion among student leaders.

2.3 The Application of Retrieval Algorithm in College Psychology Online Education Interactive Platform

If you want to be able to follow the dynamics of student submission forms in real time and analyze and organize them in a timely manner, the college needs to set up a special operation team to build and promote the WeChat public platform. The rich content of the WeChat public platform will help users design and plan teaching with personal characteristics. content. The micro-course is carried on the WeChat platform, and the frequent interaction between the receiver and the sender is realized through push.

All resource library cloud platforms need to provide comprehensive resources for college teachers. After searching, accumulating and sorting, valuable teaching resources are put into the library to realize the sharing of teaching resources within and across schools. The basic concept of the philosophy of subject refers to "all philosophy with 'cogito' or 'self-consciousness' as its basic institution". This is a "modern metaphysics" based on the inherent concern of human beings for self-affirmation and self-realization in the Western value system.

Recently, researchers have generally realized that the high-dimensional data inherent in multimedia data such as images and videos is essentially determined by limited degrees of freedom, and analyzing the geometric topology of the data can not only optimize the similarity between the data, and calculate the solution of the system. Three main issues in cross-media search on the web: Large-scale visual concept labeling for distinguishing whether a media entity contains

one or more predefined concept labels in multimedia semantic understanding, example-based machine learning methods It is widely used, emphasizing the necessity of semantic understanding from examples. This type of method mainly includes various restrictions and supervisions in the actual application of informatization and does not have the open thinking of the Internet. Students are also unable to properly apply information technology in specific learning, and their learning progress is quite different.

3. CONCLUSIONS

The summary of this field is not very comprehensive, such as natural language understanding, question-and-answer retrieval and performance evaluation in cross-media search engines are also important issues that deserve attention and discussion. Student workers need to continuously improve their professional knowledge of psychology, the ability of network publicity management and related work skills, actively explore the implantation of micro-lectures into the mental health education system of colleges and universities, and use mobile intelligent platform resources to implement WeChat information flow interaction that combines information-based learning, interactive learning, and personalized learning teaching.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 39 – 42, 2023, ISSN:- 2319 - 7560
DOI: 10.7753/IJSEA1206.1010

Intelligent Modeling Analysis of the Practice Path of Vocational Education Fusion of Education and Production Under the Background of Big Data

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Abstract:This article explores the cultural nature of vocational education courses based on big data, reveals the logic of vocational education curriculum transformation, and explores the general path of contemporary vocational education curriculum transformation—the concrete feasible path under the fusion of education and production. In-depth fusion of education and production. Including my country's current vocational education policy documents on the fusion of education and production, the curriculum culture of the fusion of education and production, and the problems faced by the transformation of vocational education courses from the perspective of fusion of education and production. Promote the two-way development of the big data profession and the big data industry economy, and deepen the breadth and depth of the big data profession's fusion of education and production.

Keywords: Intelligent Modeling, Vocational Education Fusion, Production and Education, Big Data

1. INTRODUCTION

Fusion is the fusion of two or more different things. The fusion of education and production refers to the a the quality of care and education, and realizing industries based on the professional characteristics of the school, so that the majors and industries are closely integrated, and the school is established as a collection of The data acquisition card adopts, Achievement industrialization, scientific and technological services, and technology transfer are an integrated industrialized business entity that provides services for the transformation and development of localities and the progress of the school's disciplines, forming a school-running model that integrates schools and enterprises. The fusion of education and production is the PCI-8310 high-precision data acquisition card, which allows the use of 32-channel single-ended input, industries and enterprises to improve the quality of talent training [1-6].

From the perspective of course evaluation methods, the eight colleges and universities have diverse curriculum evaluation methods and rich homework forms. Compare For example, the homework of Taiwan Normal University includes: personal special education video appreciation experience, personal field visit to study Learning experience from study or institution, group 4 or 5 people experience disability related activity design. Group reports are not only Only report the content of the course, but also discuss the educational placement, course mode, teaching strategies, teaching Educational challenges, educational suggestions, can also be added to the exhibition, the simulation scene (mainly problems that may arise in the school and how teachers deal with it), experiential activities, etc. In addition, Tsinghua University has two other evaluations above. Bonus options: (1) Volunteer service: work as a volunteer or assistant teacher in a special education institution, five hours The above (2) interviews with teachers of integration classes, resource classes or special education classes: contact a teacher who is engaged in related work, To conduct an exclusive interview after consent, a verbatim transcript shall be provided, and a personal interview report shall be completed, and a personal interview report shall be provided. The road course provides inspiration and views.

[7-14].

This makes the ability of graduates engaged in the cross-border e-commerce industry differ greatly from the actual job needs of the company. The contradiction between talent training and the needs of the company is becoming more and more serious, and the resulting talent gap is becoming more and more serious. Under the rapid This is related to the healthy growth of children and the future. The overall improvement of the quality of the urban population, and calls on the country to make a clear response at the legislative level, to provide a basis for local legislation or government law enforcement, and strive to promote the rapid development of early education in my country. Teacher Team Construction Reform Implementation Plan" pointed out that "Building a high-quality "double-qualified" teacher team is the foundation for accelerating the modernization of vocational education. Work." To understand the concept of preschool children's education APP, we must first understand the definition and characteristics of APP. According to the definition of APP on Wikipedia: APP is the abbreviation of "Application", and mobile application (Mobile Application) is referred to as Mobile APP or APP. Some people call it mobile apps, mobile apps, mobile apps, etc. They refer to apps designed to run on smart phones, tablets, and other mobile devices. APP is a service application based on mobile terminal equipment, not only a product but also a communication application service. As mobile devices are upgraded and updated, the development of APP has also entered a new platform. With the development and popularization of programming technologies such as JAVA, there have been many applications that can be installed and uninstalled freely by users. Among them, games and entertainment are the main ones, forming the original APP. [15-21].

Such as: Australia's "TAFE" (TAFE is short for vocational and technical education). Among them, the German "dual system" model developed earlier and developed better, but the school is too inclined and dependent on the enterprise, so that the prosperity and decline of the enterprise can directly affect the development of the school. With the changes in the main contradictions of our society, the main contradictions of our country's vocational education have also undergone corresponding changes: on the one hand, the people's demand for good vocational education and the demand for high-quality vocational education resources are becoming more and more urgent; on the other hand, our country at present, the supply of high-quality vocational education resources is relatively short and the regional distribution is not balanced [22-24].

2. THE PROPOSED METHODOLOGY

2.1 The Fusion of education and production in Vocational Education

There is a big difference between the courses of special education classes and ordinary vocational courses. except according to In addition to appropriately reducing the content and difficulty of the courses set up by related majors in secondary vocational schools, it is also necessary to Increase individualized courses according to the needs of students with intellectual disabilities, such as rehabilitation and medical-educational courses Wait. In short, the curriculum setting of special education classes in secondary vocational education should not only consider the needs of majors, but also meet the needs of the majors. Individualized needs of life, social and physical rehabilitation of students with intellectual disabilities. Therefore, the course It is necessary to take into account the characteristics of academic and functional [10], that is, to meet the needs of students with intellectual disabilities at the same time The needs of future career development and the needs of basic life and social integration.

First, within the "Ecosystem of Industry-Education Fusion", strive to achieve "five dockings", innovate the big data ecosystem, and in the field of application-oriented talent training, use the collaborative research and development of actual industry scenarios to drive education and teaching, and effectively solve the problem of teaching and learning in colleges and universities. The problem of disconnection in industrial development focuses on cultivating innovative, compound, and application-oriented talents, and deepening the reform of the higher education system. Colleges and universities must break through the homogeneous development pattern, cultivate "three-type" talents, and adapt to the needs of the development of the big data industry. The "five connections" means that students connect with industries, professional companies, curriculum content, professional standards, academic certificates and vocational qualification certificates, vocational education and lifelong learning, and ultimately achieve the sustainable development strategic goals of symbiosis of subjects and platform sharing. Talents Common education and mutual benefit. Vocational colleges pay attention to the academic qualifications of teachers in recruiting e-commerce teachers. At the same time, many teachers are from school to school and have no corporate work experience or experience. However, vocational colleges do not have a complete training system, and there is no pre-employment training for newly recruited e-commerce teachers or only emphasis on training in teaching theory.

2.2 The Fusion of education and production in The Context Of Big Data

Establish big data practice bases, data science teaching and training platforms, and big data basic teaching management platforms in enterprises. According to the development needs and talent needs of big data, data science, and artificial intelligence industries, combined with the existing talent training system of universities and the situation of students , To carry out in-depth cooperation in talent training around the direction of big data and data science. Innovation and entrepreneurship projects are actual projects based on mainstream cross-border e-commerce B2C and B2B platforms (Aliexpress, Amazon, Alibaba, etc.). Companies provide real accounts, sources of supply, and supply chains, and guide students to operate real stores. In the actual project, the company is divided into different project teams according to the company's job group, including cross-border platform operation group, cross-border graphic design group, cross-border customer service after-sales group, cross-border data analysis group, cross-border warehousing operation group, and overseas new media planning Groups, etc., each group is in charge of the corporate mentor and the student group leader, and the school teachers and corporate mentors jointly assign project tasks for the students.

The most critical aspect of the fusion of industry and education is "fusion", including fusion-related standards, such as talent training standards, corporate career training standards, and cooperation output standards. Therefore, under the fusion of education and production, "schools, enterprises, government, and associations" have worked together to formulate the training standards, access standards, and assessment standards for the "dual-professional" teacher team, and explored a set of effective "dual-teacher" teachers. "Cultivation and assessment system. When formulating the training standards for the e-commerce "dual-teacher" team, it combines the standards of large-scale e-commerce companies, e-commerce industry standards and national vocational education standards, and at the same time through its "efficiency", such as through new media or e-commerce platform operation and promotion the number of fans, marketing volume or traffic generated in the establishment of assessment standards. The big data industry chain starts from the production of data, and the upstream and downstream entities work together to form three types of enterprises: data ownership, data analysis/management, and data application.

2.3 The Intelligent Modeling of the Practice Path of the Fusion of education and production

In the process of deepening the fusion of education and production, enterprises play a key role in the cultivation of "dual-teacher" teams. Therefore, by improving the top-level design of school-enterprise cooperation, companies are guided to actively participate in the construction of the "dual-professional" teacher team and position themselves well. First of all, it is necessary to collect and accurately diagnose the demands of the "dual teacher" teachers, and adopt a personalized training program. E-commerce involves a non-extensive field, involving e-commerce marketing and e-commerce technology. Therefore, in training, it is necessary to fully understand the main demands and desires of teachers, encourage teachers to develop in their fields of expertise, and technology-oriented teachers are proficient in technology and face Marketing teachers have high-level planning or

marketing capabilities, which will help improve students' professional skills.

Second, clarify the "team-based" development. "Building a digital economy with data as the key element" has gained widespread consensus around the world. The big data industry needs to deeply integrate with the real economy, give a play to the part of data as a basic resource and innovation engine, and accelerate the formation of a big data innovation chain. Leading digital economy. The innovation main body closely revolves around the regional industrial layout, relying on the enterprise, based on the product, and multi-subjects coordinated efforts to form a network system that interactively connects innovation supply and innovation demand. In the process of professional construction, colleges and universities need to reasonably locate the link of the major in the professional chain, talent chain, and technology chain, and establish school-enterprise partnerships by looking for big data sources, talent training programs, curriculum standards, teaching materials, and practice. The training room plan needs to be formulated around data to meet the actual talent needs of the big data industry.

3. CONCLUSIONS

With the big data discipline as the background, the new issue of industry-education fusion as the guidance, and the ecosystem mechanism as the breakthrough point, the industry-education fusion ecosystem is constructed from four functional modules: collaborative education, professional construction, teacher sharing, and technology research and development. In-depth fusion of industry and education, building a new ecological model of big data subject innovation, and establishing a wide range of government, industry, and industry participation in the cultivation of applied talents in universities as support, and an innovative big data talent training system for cultivating complex and application.

4. ACKNOWLEDGEMENT

Key Topics of Heilongjiang Provincial Education and Science Planning Office《Research on the Practice of Ideological and Political Teaching Reform of Chain Management Major in Higher Vocational Education》.Subject No.ZJB1422021.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 43 – 45, 2023, ISSN:- 2319 - 7560
DOI: 10.7753/IJSEA1206.1011

Remote Technical Support for Localization Development of Confucius Institutes in Southeast Asia Based on Online Screen Sharing Cloud Algorithm

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Abstract:Based on the "Intelligent Multimedia Distance Learning System" developed by the department, this paper presents a new image block recognition algorithm and intelligent cloud HD sharing strategy, explores the development history of Confucius Institutes in Southeast Asia, and applies distributed storage and service-based reconstruction. , data push and other technologies, realize the rapid write-back and extraction of data, and the flexible configuration of server nodes. By improving the teaching mechanism of the adult education function of the Confucius Institute, the technical support route for the localized development of the Confucius Institute in Southeast Asia is obtained. On this basis, the framework and research content of this study are determined, and the status quo of the adult education function of Confucius Institutes is investigated through case interviews.

Keywords: Remote Technical Support, Confucius Institutes, Online Screen Sharing Cloud Algorithm, Southeast Asia

1. INTRODUCTION

Screen sharing applications refer to the transfer of one party's computer screen display to the uncle's computer. Poke up to crack remote control, demonstration and other purposes. The early computers were limited by the hard environment to provide all-round integrated solution development for the development of cost control business [1], process tracking management, subsequent one-time improvement and further abnormal management of Internet of Things technology and energy Internet technology [2]. Information analysis and processing, data collection the volume will also grow exponentially; at the same time, these solutions and information support [3].

The Confucius Institute is a non-profit educational institution established overseas to disseminate Chinese language and Chinese culture by learning from the successful experience of English, French, German and other language dissemination institutions [4]. General Secretary Xi Jinping pointed out that language is the best key to understanding a country, and the Confucius Institute is an important platform for the world to understand China. First, the price factor is the main reason why small and medium-sized enterprises in my country give up traceability [5]; On-site inspection, or equipment delivery, will have a certain impact on the production of enterprises. Modern warfare is not only a confrontation between people, but also increasingly manifested as a confrontation between the performance and integrity of weapons and equipment on both sides. The security capability puts forward higher requirements [6].

In recent years. Ship-based helicopters are used as anti-submarine for naval surface ship formations. The main equipment for anti-ship, search and rescue, security, and transportation is an important part of the naval combat unit [7]. At present, the navy has been equipped with various types of helicopters, and its maintenance support adopts the three-level maintenance support system of outfield, infield and overhaul plant. With the successive installation of a batch of high-tech aviation equipment [8]. There are such application requirements in the system of business, distance teaching, remote monitoring and stock analysis. In these systems, customers need to share the software operation interface of the host screen under the condition of certain visual satisfaction (high fidelity) [9], and the cloud computing method is developed from a super virtual computer composed of a group of loosely coupled computers, that is, we It is often said that grid computing developed. Therefore, part of the grid computing algorithm can be adopted in the task scheduling of cloud computing [10].

The teaching research of the Confucius Institute, including Chinese language teaching, teacher training, teaching materials, etc. For example, Liu Cheng and Xiang Ping (2010) [11] introduced and analyzed the remote operation mode, curriculum setting, and teaching characteristics of the Confucius Institute at the University of Kansas based on their own teaching experience. teachers" [12], and the quality of the teaching staff is a key factor in the realization of the adult education function of the Confucius Institute. Based on this, there are many related studies, mainly in the selection of teachers, pre-job and on-the-job training, teachers' professional ability and literacy [13], especially the cultivation of cross-cultural communication skills, cultural attitudes and so on. Originally in 2005, the basic ABE mechanism was proposed by Bowater et al. [14]

But only threshold access control policies are supported. Access control structures are also simply collections of attributes. In order to make the access control policy more flexible, Goyal et al. proposed the key-policy ABE (KP-ABE) based on the tree-shaped access control structure [15] using the theory of change and the theory of communication originated from organization-as a kind of Explicit theories are used to comprehensively demonstrate the external environment for the development of Confucius Institutes in Africa [16], analyze the development results, motivations and possible reform strategies of Confucius Institutes in the process of adapting to the localization of Confucius Institutes in Africa, and guide the development of the full text [17].

However, screen images have the characteristics of high resolution and complex situation. A typical Windows desktop is 800 × 600 × 32bits true color, and its original size is 1,920,000 bytes, and it takes 4 minutes to transmit an uncompressed frame of screen on a 64K bandwidth [18].

It is very inefficient to automatically calculate the remaining amount of electricity bills for customers' electricity consumption, which is very inefficient with system settings, storage and access [19].

2. THE PROPOSED METHODOLOGY

2.1 The Online Screen Sharing Cloud Algorithm

Through the distributed parallel memory computing strategy, horizontal expansion can be carried out in each case shortened, and the total time of electricity cost calculation among multiple clusters improves the calculation ability and scalability. At the same time, the data can be exchanged. The multi-cluster architecture of ODPS includes controlling the cluster distribution platform to realize automatic fault tolerance and load balancing among nodes. Remote metering has brought an impact to the traditional metering mode, and has created new requirements for metering. Remote metering combines metering with network technology.

The screen sharing technology proposed in this paper is a relatively independent software module, which can be applied to various occasions such as video conference and distance education. Therefore, a method based on screen copying and image compression is adopted. This method uses the screen image as an information source, compresses and transmits it, and then decodes and reproduces it on the client side. It realizes the function of local area network or Internet remote monitoring. When there are two identical paths in the process of ants looking for food from the nest, then the probability of an ant choosing two paths is the same, and the pheromone left on the way is roughly equal. If the paths of the two paths are inconsistent, the ants randomly select. The basic ABE mechanism (FuzzyIBE) only supports simple threshold control, and neither the data sender nor the data user can specify Flexible access control policies. When the number of ciphertext attribute sets intersecting with the user attribute set is not less than the threshold value set by the authority, the data user can decrypt correctly.

Existing cost control applications use Weblogic to select a feasible technical implementation for the research on multiple server technologies. The method of forming application clusters to realize large-scale data calculation, when there are more and more application servers, the marginal application effect of the new application server, the distributed storage of massive complex and billing data is the solution to the single-effect is obviously decreasing, and with the innovative applications of acquisition and cost control, the access efficiency is low due to the centralized storage of equipment, and it is difficult to prepare data in detail. The distribution of pixels with the same color value in the spatial domain is relatively concentrated, and there is more static background information, so there are facilitates inter-frame predictive differential pulse coding (DPCM).

2.2 The Localization of Confucius Institutes in Southeast Asia

In the new era, realizing the transformation and upgrading of Confucius Institutes will become the necessity to promote a healthier and more sustainable development of Confucius Institutes. To this end, Hao Ping, the former vice minister of the Ministry of Education, proposed that Confucius Institutes are the window and bridge for education reform and opening up. The reform of curriculum content first subdivided the curriculum stages, taking into account the physical and mental development and needs of students at different stages, and divided students aged 3-18 into 5 stages.

Secondly, the course content is divided into eight major areas, namely expressive arts, health and well-being, language, mathematics and computing. As mentioned above, educational communication should reveal the interaction and overall role of various communication elements in a concise and scientific manner. Policies are one of the important elements that constitute the external development environment of Confucius Institutes in Africa. They are the guidelines for the development direction of Confucius Institutes in a certain period of time and have direct normative significance for the transformation and reform of Confucius Institutes. From the source of policies, the policies affecting the development of Confucius Institutes in Africa are mainly composed of two parts: one comes from the headquarters of the Confucius Institute, and the other comes from the overseas partners of the Confucius Institute. Therefore, it is necessary to start with its basic constituent elements to carry out scientific and practical abstract understanding. In general, there are interactions and cyclic interactions among the various elements that constitute the propagation mode.

2.3 The Research on Remote Technical Support of Confucius Institutes in Southeast Asia

Actively promote the implementation of the "Confucius New Sinology Program" to attract more international talents to engage in Chinese teaching. Second, we must actively promote the localization of teaching materials. Of course, it is also necessary to design a software system that matches the hardware circuit. The design of the software system is relatively simple. The core part is to select the standard signal output sequence and size of the standard equipment according to the needs. The teaching material is the concrete embodiment of the overall teaching design. The in-depth development of the international communication of Chinese in the new era has put forward higher requirements for the existing Chinese textbooks.

The compression algorithm introduces the P-frame mode and sends I-frames regularly to ensure that the receiver can obtain complete screen image information, so that even if there is an error in the transmitted frame, the receiver can re-acquire the original image in a short time. Cloud storage server provides computing and storage services, maintains a user list and a virtual attribute history list for each data sender, and acts as an agent for data users to obtain user keys from authorized agencies. Authorities: Manage their own set of attributes, publish encryption public keys, authenticate data users and issue user keys; create cloud task lists and submit to data center agents. After each cloud task node is initialized, it is added to the cloud task list cloudList and handed over to the datacenter Broker.

From the above description, the principle of subjective judgment can also be drawn: if an image looks clean, simple, and eye-catching, it is an unnatural, artificially, or automatically generated "background" image, otherwise it is a natural image. From the perspective of compression purpose, the measurement standards and test instruments of the simple color measurement station can be calibrated and tested to the

enterprise without road transportation, which avoids the uncertainty change caused by the process of sending the school to the inspection and ensures the measurement standards and test instruments accuracy.

3. CONCLUSIONS

This paper introduces the design and implementation of a new type of screen sharing software in detail. According to the specific characteristics of screen images, this paper designs a fast and efficient image compression algorithm; at the same time, an efficient asynchronous communication method is adopted. After more than ten years of rapid development, the Confucius Institute has stood at a new starting point. Facing the new era and embarking on a new journey, Confucius Institutes need to do something new, that is, by continuously expanding the functions of running schools, improving the quality of running schools in an all-round way, focusing on improving the management level, breaking the bottleneck of their own development, speeding up transformation and upgrading, and improving quality and efficiency.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 46 – 48, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1012

Analysis of the Important Relationship between the Psychological Health of College Students and Classroom Teaching

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Abstract: Classroom teaching, as the main channel for mental health education among college students in China, plays a unique role in the work of mental health education in universities, but it also faces many difficulties. This article analyzes the reasons and problems for the poor effectiveness of classroom teaching of mental health education for college students in China, including the failure to reflect the characteristics of mental health education courses, the lack of targeted content, and the failure to meet the needs of college students at different stages of development One of the characteristics of the development of psychological education in China is to carry out experimental exploration on the curriculum of psychological health education, focus on scientific and systematic popularization of education, highlight the important role of classroom teaching, and ensure the status of psychological health education in schools Realize the extension of teaching resources from fixed classroom to open platform, the extension of teaching practice from real experience to virtual connectivity, and the extension of teaching evaluation from teacher led to teacher sharing; Focusing on the overall situation, promoting the integration of courses, achieving the integration of mental health courses with other courses, classroom, online, and practical integration, and the integration of the entire university stage.

Keywords: Important Relationship; Psychological Health; Classroom Teaching

1. INTRODUCTION

The university stage is an important period of transition and development in an individual's life, and it is also a high incidence stage of psychological and behavioral problems among students. Due to academic competition, career difficulties, interpersonal and romantic pressures, the detection rate of psychological problems among college students is showing a high trend, and mental health education for college students is also receiving increasing attention. In 2001, the Ministry of Education issued the "Opinions on Strengthening Psychological Health Education for College Students in Ordinary Higher Education Institutions", which made classroom teaching the main channel for psychological health education for college students in China.

Promote the professional development of mental health education. Listening to each other's lessons, the implementation of courses, and the use of teaching methods have a significant impact on teaching effectiveness. Counselors are mostly young teachers, with insufficient teaching experience. They should listen to professional teachers' lectures and learn from their strengths. Young teachers have advantages in collecting information and using multimedia methods, which can provide reasonable suggestions for professional teachers, and two-way integration can achieve complementary advantages. Some college students, in order to pursue excitement, eliminate loneliness, or compare with others, rarely consider the future and consequences when falling in love. Some students even mistake favoritism for love and choose partners only because of their appearance, material conditions, or the other person's significant influence on campus, which can easily lead to being deceived.

The fourth is personality and emotional problems: This part is mainly related to the family environment and growth experience of students and is also a relatively serious psychological obstacle among college students, mainly manifested in depression, anxiety, and so on. The standard of mental health is not how much "correct" mental health knowledge an individual possesses, but whether they have a positive emotional experience, moderate emotional expression and control, realistic life goals, complete and harmonious personality, appropriate and clear self-awareness, good interpersonal relationships, and so on. Therefore, unlike traditional subject teaching that emphasizes the logical structure and knowledge system of the subject, mental health education courses should be a comprehensive course that integrates the teaching of psychological knowledge, the experience of psychological activities, and the training of psychological adjustment skills, with a particular emphasis on students' self-experience, sharing, and practical application in life. Psychological knowledge is the fundamental content of the course 'Psychological Health Education for College Students'.

Psychology is a complete scientific system, and psychological knowledge is highly specialized. It is difficult to popularize psychological knowledge to college freshmen within the limited class hours of the "College Student Mental Health Education" course. For this reason, some scholars have proposed experiential teaching methods, which integrate psychological knowledge into emotional experience, reflection and comprehension, behavioral training, and social interaction. They not only focus on acquiring knowledge, but also on "emotions" and "behaviors", fully leveraging students' subjectivity. "In the face of various problems in the field of people's spiritual life caused by the prevalence of mass consumption culture, it should be emphasized to integrate aesthetic education into school education, thereby integrating students' life values. Aesthetic education can play its role in purifying the soul in terms of dispelling the negative impact of the current awareness of" commodity worship "and" money worship "in social life among college students, overcoming the mediocrity and superficiality, and being eager for quick success and instant benefit."

2. THE PROPOSED METHODOLOGY

2.1 The Uniqueness and Importance of Classroom Teaching in Mental Health Education for College Students in China

Based on the unique role and existing problems of classroom teaching of college students' mental health education in China, this article proposes to develop a teaching model of college students' mental health education that combines aspects and points. On the one hand, it is necessary to compress the existing "face to face" content of universal education, namely, general knowledge and skill learning in important fields such as basic knowledge of mental health, self-awareness and development, and various psychological adjustment abilities; On the other hand, targeted guidance on "points" should be added, that is, to conduct more in-depth and targeted learning in different fields, targeting areas where students' psychological adaptation and development are relatively weak and the needs of different development stages.

Process evaluation is an evaluation of students' input and output in the learning process. Process based evaluation is different from outcome-based evaluation in that its purpose is to fully exert the role of supervision, guidance, and motivation, and to comprehensively improve the quality of curriculum implementation by guiding teachers and students to pay attention to the teaching and learning process. This evaluation adopts a qualitative evaluation method mainly based on process observation, which examines students' emotions, attitudes, and values during the learning process, in order to understand the effectiveness of the dynamic process, timely feedback information, and adjustment, so as to continuously improve the plan and plan and smoothly achieve the expected teaching objectives.

Before conducting effective teaching of the content of mental health education courses, it is essential to cultivate the teaching ability and quality of teachers. The impact of teachers' attitudes, words, and behaviors on students is often more convincing than simple preaching. The aesthetic education in the classroom largely depends on the aesthetic cultivation of the teacher himself. How can a teacher who lacks aesthetics and does not attach importance to it in his heart truly guide his students to practice aesthetic education? In addition to providing universal education in the important fields of traditional mental health in the freshman year, targeted guidance based on the current development situation of students should also be added. In practical operation, the results of the psychological health assessment for new students can provide a basis for teaching in different classes. For example, the "College Student Psychological Adaptation Scale" compiled by experts organized by the Ministry of Education assesses the psychological adaptation status of college students in different fields from seven dimensions: interpersonal relationship adaptation, academic adaptation, campus life adaptation, career adaptation, emotional adaptation, self-adaptation, and satisfaction.

Based on the evaluation results, freshmen can be divided into classes according to the areas where adaptation difficulties are most prominent, and targeted guidance can be provided to students with the same adaptation problems and needs. The examination method is to investigate and explain that one should not memorize some specific psychological knowledge by rote. In outcome-based evaluation, the key is to examine students' ability to apply psychology related knowledge, problem-solving skills, experiences, and reflective results to solve practical problems. For this reason, the author used a combination of basic theory and case analysis in the final exam of the course 'Psychological Health Education for College Students'.

2.2 Improvement of Classroom Teaching for Mental Health Courses

Specialized practical courses can be added to carry out relaxed and fun psychological activities through experiential group counseling teaching methods, leading students to create opportunities in a beautiful environment and atmosphere, improving their self-cognition and emotional behavior development through communication and cooperation, and improving their mental health level. In the study of mental health, it can also be targeted at the group of college students, sort out the psychological problems or puzzles that some students may encounter in their daily lives. Through the analysis and exchange of some excellent cases, more students can understand how to respond and adopt more reasonable and effective methods when they want to care and help others. The unique role of classroom teaching methods in the mental health education of college students in China also puts forward higher requirements for mental health education courses, it is necessary to accompany students throughout their entire university life.

In addition to freshman year, it is necessary to provide corresponding extended mental health education courses tailored to the main tasks and needs of students of different grades for elective courses for students with guidance needs. Extension courses also belong to "point" guidance, which is in-depth and targeted guidance around a specific field. They focus on experiential activities and discussion groups and focus on cultivating students' practical application and problem-solving abilities. Due to its good interactivity, virtual technology has been promoted in college curriculum teaching in China, enabling students to participate in curriculum teaching happily and smoothly. The author closely follows the trend of the times and keeps up with the times when teaching the course of "Psychological Health Education for College Students", promoting the extension of teaching methods. What is the significance of aesthetic education?

The purpose of mental health education is similar to that of cultivating people with beautiful hearts and sound personalities. Aesthetic education is integrated into the mental health education curriculum for college students, and various romantic teaching forms with aesthetic feelings are used to guide students, educate them with aesthetics and culture. Helping college students cultivate their character, soothe their emotions, increase self-confidence, and enable them to develop and abandon themselves through aesthetic appreciation, learning how to choose and learn. Whether teaching in different classes based on students' psychological development or offering elective courses on mental health extension education, there is a need for more teachers in mental health education.

In the popularization education of "noodles", the main focus is to strengthen the professional skills and teaching skills training of existing full-time and part-time mental health teachers, and promote more diverse and effective classroom teaching methods; In targeted guidance for "points", teachers can be supplemented in more flexible and diverse ways, such as developing and training qualified instructors to participate in classroom teaching of mental health education in certain areas of their expertise, fully mobilizing social resources, and hiring experts in relevant fields to hold special lectures or various activities to reduce class hours.

3. CONCLUSION

Currently, college students' mental health issues are receiving increasing attention, and vocational colleges should actively explore the teaching reform of the course "College Students' Mental Health Education". The author's school has taken effective teaching reform measures, namely, the organic integration of professional knowledge and practice, the integration of teaching staff, and the integration of evaluation forms in the course "Mental Health Education for College Students"; While earnestly summarizing the beneficial experience of mental health education and continuously promoting mental health education for college students, colleges and universities should constantly explore and summarize new work ideas and teaching models based on the psychological characteristics and development laws of college students in the new era, so as to more effectively promote the mental health education work for college students.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 49 – 51, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1013

Research on the Quality Evaluation System of Postgraduate Education under the Background of the Internet

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Abstract: Through a systematic review of domestic and foreign research on the quality of postgraduate education, this study defines and sorts out the relevant concepts and theories of postgraduate education quality, postgraduate education quality evaluation, and postgraduate education quality assurance. And put forward the strategy to improve the quality of postgraduate education in my country. Using big data technology to monitor education quality data, based on this analysis the main factors affecting the evaluation of postgraduate education quality under the background of "Internet +". Further use the analytic hierarchy process to build a postgraduate education quality evaluation index system, and determine the weight of each index, and through the analysis of the data results, put forward an effective path to improve the quality of postgraduate education in my country.

Keywords: Sports Health, Management Information Platform, School-Enterprise Collaboration

1. INTRODUCTION

Deepening the comprehensive reform in the field of education is a new requirement for education reform put forward in the report of the 18th National Congress of the Communist Party of China. To effectively implement my country's requirements and arrangements for deepening comprehensive reforms in the field of education, the Ministry of Education pointed out that it is necessary to fully understand the urgency of deepening comprehensive reforms in the field of education and focus on the key points of reform. Educational quality evaluation is an important orientation of educational reform and a key link in comprehensive educational reform. Colleges and universities around the world are constantly implementing educational curriculum reforms, and at the same time actively exploring the field of postgraduate education quality evaluation and have made initial progress. However, the status quo of education evaluation has not been fundamentally reversed. It is still based on students' academic performance and lacks a national and unified comprehensive evaluation standard and platform for education quality. Bie Dunrong et al. (2016) believed that my country's postgraduate education development needs are constantly increasing.

Therefore, it is necessary to analyze the factors affecting the quality of postgraduate education from multiple perspectives. As an active party, the school needs to formulate reasonable and effective training methods, build a scientific curriculum system, and form an excellent tutor team to promote the construction of education quality and deliver high-quality education to the society. horizontal talent. From the perspective of the development trend of higher education in various countries in the world, vigorously developing higher education has become a common practice in all countries in the world. In view of this, it has become an important part of my country's postgraduate education in the new era to actively seek to build a quality evaluation system for postgraduate education in my country under the background of popularization to ensure the steady improvement of postgraduate education quality. Continuously improve the quality of postgraduate education, improve the independent innovation capabilities of colleges and universities, strengthen the combination of production, education, and research, and cultivate more and more high-quality talents. Relevant government departments need to regulate and supervise colleges and universities and participate in the quality evaluation of postgraduate education. The transformation of government functions needs to change from the previous "doing evaluation" to "managing evaluation", and use the method of improving laws, regulations, and policies to promote the continuous standardization of postgraduate education quality evaluation.

The impact of the government on the quality of postgraduate education is mainly reflected in three aspects: policies and regulations, planning guidance from relevant departments, and certain financial allocations. The government regulates and supervises colleges and universities and participates in the quality evaluation of postgraduate education. The impact of the government on the quality of postgraduate education is mainly reflected in three aspects: policies and regulations, planning guidance from relevant departments, and certain financial allocations. The continuous expansion of the scale of postgraduate enrollment not only brings new opportunities for the development of postgraduate education in my country, but also brings major challenges to the development of postgraduate education in my country. Although the continuous expansion of graduate enrollment has ensured the number of students in each graduate training unit, it has also brought about a decline in the quality of students. Especially in recent years, with the gradual increase in employment pressure, many college students take the postgraduate entrance examination as an important way to increase employment capital, and even use the entire university stage for review preparation for the postgraduate entrance examination.

Systematic principles must be followed when selecting the structure and levels of indicators, which require the harmonious response of the whole and the parts and can reflect the development of the quality of postgraduate education more systematically and specifically. The postgraduate education quality platform based on big data will involve various fields of government and university work, so

it needs systematic planning and construction of education quality management with national and provincial governments as data centers and regions, cities, counties and universities as data branches the platform enables education departments and units at all levels to conduct daily teaching management through the education quality management platform, forming a benign education quality management system from top to bottom, and continuously adding value from the data platform. The important influence of society on the quality of postgraduate education It is mainly reflected in two aspects: social evaluation and social demand.

2. THE PROPOSED METHODOLOGY

2.1 Influencing factors of postgraduate education quality evaluation in the context of "Internet +"

To change the randomness of the evaluation of postgraduate education in the past, scientific evaluation and reasonable appeals should be made according to the needs of social development, and social evaluation should be transformed into specialization and standardization. However, with the continuous development of society, especially with the coming of the era of popularization of higher education, the original postgraduate education quality evaluation system in my country is increasingly lacking in integrity in many aspects such as the organization, implementation, and processing of evaluation results. At the same time, it also obviously lags the development status of postgraduate education in my country in terms of rationality of structure, accuracy and measurability of content, and keeping pace with the times of evaluation standards. Tutor factors include the tutor's age and professional title, tutor's education background, teacher-student ratio, tutor's academic level, work attitude and sense of responsibility, and teacher-student relationship.

School factors include the scientific of teaching management mechanism, subject quality, per capita experimental equipment, per capita books, and subject funding. Social factor indicators include the employment rate within three months of graduation, the three-year weighted average salary of graduates, and employer satisfaction. Through the analysis of the above research results, it can be concluded that the postgraduate factors account for the largest weight in the postgraduate education quality evaluation system, and the dissertations account for the largest weight in the postgraduate influencing factors. In the process of graduate education, more attention should be paid to the learning and development of graduate students, allowing students to "voice" in the evaluation of education quality, and evaluating from the perspective of students will help improve the quality of graduate education. Since the evaluation itself has a strong orientation, the construction of my country's postgraduate education quality evaluation system under the background of popularization should first reflect the direction of my country's socialist school-running and the direction of higher education reform and development. At present, the training goal of postgraduate education in my country is: "senior professionals with comprehensive development of morality, intelligence and physique, and innovative spirit and practical ability". At the same time, it is necessary to combine the actual national conditions of our country to avoid the wrong tendency of emphasizing talent and despising morality.

This study uses SPSS20.0 software to analyze the reliability results and uses the corresponding Cronbach's coefficient a to measure the degree of consistency between indicators. When Cronbach's coefficient a>0.7. A score of 7 indicates that the reliability of the scale is very good. When performing internal consistency analysis, if the correlation values between indicators are low or even negative, you need to consider deleting the corresponding indicators. The internal consistency of each index in the index system of this study, a>0.7. Therefore, the postgraduate education quality evaluation index is acceptable.

2.2 Strategies to improve the quality of postgraduate education in the context of "Internet +"

Establish a normalized mechanism for monitoring the quality status of colleges and universities, let them take the initiative to evaluate, promote construction through evaluation, and build a quality assurance system for colleges and universities, so that the work of educational quality evaluation runs through the entire teaching process, and it is further institutionalized, long-term, and standardized. Change the previous evaluation method of focusing on results and ignoring the process and focus on the dynamic process of postgraduate education. Postgraduate education is a systematic project involving many factors. Therefore, in the process of evaluating the quality of postgraduate education, it is necessary to reflect the essential characteristics of the evaluated object, maintain the integrity of the evaluated object itself, and accurately reflect the goals achieved.

In view of the fact that talent cultivation is influenced by both objective, material, and quantifiable factors, and is also restricted by subjective, soft, cultural, and vague factors, the construction of my country's postgraduate education quality evaluation system under the background of popularization requires both considering the whole process of postgraduate training under the background of popularization, including classroom teaching, training conditions, scientific research ability and dissertation, etc., it is also necessary to highlight the key links in the education process under the background of popularization, such as enrollment and degree conferring, so as to give full play to the postgraduate education. The overall coordination and system optimization function of the education quality evaluation system. Scientific research is an innovative activity that discovers and forms new knowledge and new technologies. Therefore, it is necessary to improve the quality of graduate education and cultivate the innovative ability of graduate students.

Therefore, this study chooses the quality of scientific research projects and the status of participating in scientific research activities to measure the quality of postgraduate education. Specifically, it includes the number of scientific research projects participated in per capita, the status of scientific research ability training and the number of academic discussion meetings per capita. The indicators of foreign language proficiency are mainly the scores of CET-4 and CET-6, and the scores of IELTS and TOEFL. The Internet, media, professional social evaluation intermediaries, etc. play the role of communication bridges between universities, the government, and society through public opinion, and supervise the quality of postgraduate education. Therefore, public opinion supervision needs to change from the randomness of previous evaluations to scientific evaluations based on the needs of social development, that is, to develop from random evaluations to professional and standardized evaluations. The structural composition of students has also changed, such as age composition, source of students and other factors are more complex than before.

Facing the advent of the era of popularization of higher education, how to ensure and improve the quality of graduate student sources while expanding the enrollment scale, to lay a good foundation for subsequent training, will be the goal of building a quality evaluation system for graduate students in my country under the background of popularization. Social intermediaries have only participated in the quality evaluation of postgraduate education for more than ten years and have not yet played their main role. However, the influence of public opinion in social reality is increasing, and it has become an important aspect to promote the process of the rule of law, and further standardization and specialization are urgently needed. Give full play to the representative role of social justice in the supervision of public opinion, and promote the harmony, high quality, and efficiency of the postgraduate education quality evaluation model. Therefore, public opinion supervision needs to be forwarded from random evaluations in the past to scientific evaluations based on the needs of social development, that is, to develop from random evaluations to professional evaluations.

3. CONCLUSION

This paper uses big data technology to analyze the influencing factors of postgraduate education quality in the context of "Internet +", follows the scientific and feasible principles of index system design, and constructs a set of scientific and feasible postgraduate education quality evaluation system. The weights in the evaluation system are compared and analyzed, and effective conclusions are drawn. On this basis, some suggestions for improving the quality of graduate students are put forward. In the case of limited postgraduate education resources, especially tutor resources, the quality of postgraduate dissertations has declined to varying degrees. Therefore, establishing a scientific and effective dissertation evaluation system and effectively improving the quality of graduate dissertations will be an important mission of my country's postgraduate education quality evaluation system under the background of popularization.

4. ACKNOWLEDGEMENT

Topic: Key Project of the Comprehensive Reform Research and Practice Project of Postgraduate Education in Shaanxi Province, "Research on the Innovation of the 323 Classification and Interactive Training Mode for Postgraduates with a Degree in Liberal Arts in Colleges and Universities", Project Number: YJSZG2023111

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 52 – 54, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1014

Research on the Intervention System and Implementation Strategies of Children's Physical Health in China

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Abstract: In recent years, many research practices have shown that the physical health of adolescents in my country is on a downward trend, and there are problems such as a decline in the pass rate of students' physical fitness tests, overweight, and an increasing number of myopias. Relevant scholars have suggested that this is due to the lack of physical activities for preschool children. In this paper, the literature and interview methods are used to study the development of children's physical health, aiming to strengthen people's understanding and attention to the fact that physical activities can effectively promote children's physical health, to further promote the development of children's physical health. Using the experimental research method to intervene the physical health of children in the middle class of Wu Kindergarten and their caregivers, to study the effect of physical health intervention on children, on the one hand, it provides a theoretical basis for the experimental research of enriching children's physical fitness, and on the other hand, it provides a basis for the physical health of kindergartens. Provide a certain basis and reference for activity teaching and the improvement of children's physical health.

Keywords: Intervention System, Implementation Strategies, Physical Health

1. INTRODUCTION

The development of the national economy, the progress of society, the continuation and innovation of national civilization, in the final analysis cannot be separated from the development and progress of people, and whether it is the development and sublimation of spiritual civilization, or the innovation and progress of knowledge brought by science and technology, all development the premise of all is based on the two-way basis of a sound personality and physique. The relevant principles of Marxism also enlighten us that productivity is the ultimate decisive force for all social development. The people-oriented concept of socialist development advocates that the development of socialism should be human the development of the national physique is the key factor affecting social progress and development, and the national physique has an important significance that cannot be underestimated in the socialist modernization drive.

Chapter 10 of the "Healthy China 2030" Planning Outline clearly proposes to strengthen health services for key populations, implement the Healthy Children Program, and strengthen early childhood development. Since the outline was issued, children's physical health has become a hot topic today. This article explores the development status of children's physical health under the background of "Healthy China", aiming to promote people's understanding and attention to children's physical health and promote the development of children's physical health. Movement system characteristics. Young children's bones are soft and easy to bend, and the large skeletal muscle group develops earlier, and the small muscle group begins to develop after the age of six, and the large muscle group dominates running, jumping and other movements. Because of the characteristics of joint development, there are certain requirements for children's straight-line acceleration running distance: about 5-8 meters for children aged 3-4, 6-9 meters for children aged 4-5, and about 10 meters for children aged 5-6.

The nervous system of young children develops rapidly, and the brain weight of newborns is about 350 grams, and it is about 1200 grams at the age of 6. The nervous system can control the accuracy and speed of children's movements, which are closely related to agility and speed quality, so 3-6 years old is the critical period for the development of movements and the golden period for the development of physical fitness. Through the evaluation of children's physical fitness level, the analysis of morphological characteristics, and the analysis of the test results of various test indicators, combined with the comparative analysis of the results of children's physical fitness in Hubei Province in 2005 and 2010, the comprehensive evaluation of the children's 3.6-year-old children in current situation of physical fitness, in order to understand the physical fitness level of children aged 3-6, reveal the changing laws of physical fitness of children of different genders and age groups, so as to improve the attention of society, parents of children and kindergarten teachers to physical problems of children, and provide kindergarten sports activities. Teaching provides certain references, to achieve the purpose of improving children's physical condition to a certain extent and laying a certain foundation for them to have a relatively healthy body.

In 2018, Beijing Sport University, which clearly provided guidance for improving children's physical health for the first time opinions, scientific exercise recommendations and guidance, help young children develop positive exercise patterns, and make exercise an essential part of child rearing. The publication of the "exercise guidelines for preschool children (3-6 years old) (expert consensus edition)" has promoted the development of children's physical health and enthusiasm.

International Journal of Science and Engineering Applications
Volume 12-Issue 06, 52 – 54, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1014

2. THE PROPOSED METHODOLOGY

2.1 The Design of Children's Physical Fitness Intervention

Based on previous studies, the design of physical fitness intervention in this study is as follows: the content of physical fitness exercises for children aged 3-4 is mainly based on basic movements, not focusing on the quality of movement development, but focusing on the development of children's basic activity ability. Focus on the cultivation of children's sports interests; 4-5 years old children's physical fitness exercises do not pay too much attention to the quality of movements, some sports skills are added to it, and a practice environment consistent with sports events is created; 5-6 years old the content of children's physical fitness exercises requires that the movements have a certain quality, learn the basic skills of common sports events, master more sports events, and lay a good foundation for children's sports skills in the transition to primary school, so as to facilitate the promotion of children's physical health.

Except for the average weight of 6-year-old children in Hubei Province in 2010, the average weight of male children in all age groups was significantly higher than the average weight of male children in Hubei Province in 2005 and 2010; the average weight of 4-5-year-old female children the value was significantly higher than that of children in Hubei Province in 2010, and the average weight of 3-6-year-old female children was higher than that of similar children in Hubei Province in 2005, and there was a very significant difference currently, most of the physical education teachers in kindergartens in China are preschool education majors, they generally lack professional guidance on the cultivation and improvement of children's physical health. In addition, the number of children has increased sharply after the opening of the two-child policy in China. In order to meet the current social needs, the following strategies are proposed: First, China's education department should establish the professional standards of preschool physical education teachers and the cultivation of professional ability should be clearly improved; the second is to increase the specialization of preschool physical education in normal colleges and universities, and cultivate physical education teachers who develop in humanities, psychology, pedagogy, and physical education. On-the-job preschool physical education teachers carry out continuing education to continuously improve teachers' professionalism and comprehensive ability.

Although there are certain problems in the measurement indicators, the "National Physique Measuring Standards" (infant children's part) still has relatively comprehensive feedback on the important factor affecting physical health - physical fitness, so this study chooses this item evaluation method. The "measurement standards for national physique" (infant children's part) is only a standard for testing physical health and cannot be used as all factors affecting physical health. If the strengths and weaknesses of the physical fitness level are not fed back to the kindergarten, let alone the next step of physical fitness intervention based on the physical fitness problems reflected by these indicators, the meaning of the test will be lost. Children's physical health is inseparable from the dual role of reasonable physical exercise and scientific nutrition and diet. The correct knowledge of physical education and nutrition for children's caregivers is the premise for them to scientifically grasp children's diet and nutrition in daily life and reasonably guide children to carry out physical exercise and foundation.

2.2 Children's Physical Health Intervention System and Implementation Strategies

The phenomenon of "specialization", "competitivities" and "primary chaotization" of children's sports prematurely is mainly due to the incomplete understanding of children's sports development, which is a manifestation of utilitarian education. The "Exercise Guidelines for Preschool Children" issued in 2018 clearly pointed out that children's sports should conform to their physical and mental development characteristics, with pleasant games as the main form, while ensuring activity time and activity intensity. Under the premise, the core goal is to develop basic movement skills, considering a variety of physical qualities that are rapidly developing at this stage. In the index of sitting and forward bending, which reflects the quality of flexibility, there is an extremely significant difference in the large class, a significant difference in the middle class, and no significant difference in the small class. The reason may be that the younger the child, the better the flexibility. They are not big, and at the same time, the younger the child, the more afraid of pain, and they will shrink back when they are slightly flexible and stretched, while the children in the big class already have a certain degree of self-control, and they will be patient and restrain themselves during practice.

In the physical fitness intervention, actions such as lying on the back and holding the legs, stepping back and squatting, stretching the shoulders with the head in the arms, and stretching the arms behind the neck have a certain relationship. To sum up, the relative lack of knowledge about physical education and nutrition among child caregivers will not only lead to the deviation of their related awareness, but also lead to their unscientific behavior, which is not good for effective and scientific guidance of children's fitness exercises. Most caregivers have a high degree of recognition for physical exercise and pay attention to the quality of children's nutrition and diet, but it is reflected in their behavior and prediction. It is not enough, mainly in the following aspects: first, child caregivers themselves participate in sports The frequency of exercise is low, and most of them only occasionally participate in or even do not participate in exercise. The frequency of taking children to participate in exercise is also the same. Child caregivers have negative physical behaviors and cannot actively drive and guide children to participate in physical exercise.

Social support mainly includes the following aspects: first, the support of families, deeply influenced by traditional education in our country, many families lack the correct concept of health; The third is the support of the community. With dense population and crowded living environment in our country, many urban communities have not reserved sports venues for construction, and cannot provide sports venues for children. Fourth, the government’s opening of sports venues and not ideal, so social organizations should ensure the quality while providing public sports services.

Through observation, it can be found that after the experiment, children in the experimental group have significantly improved in the development of movements such as standing long jump, tennis long throw, 10-meter turn-and-go running, continuous jumping with both feet, and walking balance. The content of physical intervention integrates mobility actions and object control actions into physical games. Although there is no test index for movement, according to the intervention effect in the classroom, the

quality of completed movement, the fluency of movement and the enthusiasm for participating in physical activities are significantly better in the experimental group than in the control group.

3. CONCLUSION

Blended teaching has fundamentally changed the status and relationship between teachers and students in traditional teaching and has shown great advantages in cultivating learners' basic skills, information literacy, and innovation ability. However, it is difficult to monitor teaching during the implementation of networked teaching, and due to the overemphasis on students' "learning" and the neglect of the leading role of teachers, when students have too much freedom of learning, learning will deviate from teaching goals. While giving full play to the advantages of traditional teaching, embody the advantages of multimedia technology, give full play to the leading role of teachers and the main role of students, so that students can master the basic theoretical knowledge of modern educational technology and improve their practical ability to adapt to the information society.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 55 – 57, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1015

Chinese Urban Community Governance Model-Development Evolution and Institutional Innovation

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Abstract: The urban community is the spatial field of residents' life, the social field of the interaction of the participating subjects, and the political field of the extension of administrative power. Urban community governance is not only an important part of urban governance, but also the concrete practice and exploration of the modernization of national governance at the grassroots level. With the acceleration of the new urbanization process, the overlapping relationship network of multiple fields makes the urban community carry more diverse functions, but it also faces new challenges. How to build a community governance model that meets the needs of urban political, economic, and cultural development to strengthen the construction of urban communities in my country has become an urgent research topic. This paper sorts out the historical changes and practice types of my country's urban community governance model, to provide reference and reference for my country's urban community construction.

Keywords: Urban Community, Governance Model, Development Evolution, Institutional Innovation

1. INTRODUCTION

Community management is an important part of social management. There is a community when there are human settlements, but large-scale and conscious community governance is the product of a certain stage of social and economic development. At present, my country's community governance work has attracted widespread attention, which is an inevitable requirement to adapt to the development of the socialist market economic system.

At present, our country is in a transitional period from a traditional society to a modern society, and the social structure is undergoing profound changes. In addition to the original field of government-administration integration, a new field of market economy and a wider field have gradually developed and developed. Complex areas of social life. The report of the Nineteenth National Congress of the Communist Party of China pointed out that to create a social governance pattern of joint construction, common governance, and shared benefits, we must strengthen the construction of social governance systems, improve the social governance system of party committee leadership, government responsibility, social coordination, public participation, and legal protection, and improve social governance. The level of modernization, rule of law, intelligence, and specialization.

This paper takes system, organization, and model as the value core of urban community governance mechanism innovation, analyzes the functions and roles of the three in the innovation of urban community governance mechanism, and on this basis discusses the city that is oriented by system improvement, organizational coordination, and model upgrading. The path of community governance mechanism innovation. Regarding the analysis of the reasons for the changing path of community governance, Wang Sibin (2000) pointed out that modernization and urbanization are the forces that destroy traditional communities. Some scholars have also reflected on the reform of the grassroots social management system from the perspective of urban social and political control methods. Zhou Ping and Xia Jianzhong (2000) believed that the development in the direction of decentralization or decentralization from top to bottom is in essence to further expand the state to carry out social management and Institutional networks of control.

From the perspective of governance, governance will replace the concept of governance and become an important guiding ideology for the innovation of my country's grassroots social management system with its characteristics of diversified subjects, priority of resource allocation, two-way power operation, and limited government. The government-led community governance model the administrative community is a community governance model with the government as the core, mainly centered on the street residence system, under the leadership of the street office and the neighborhood committee, and other intermediary organizations and social groups cooperate. Manage various affairs in the community.

The management model dominated by the street residence system has the following advantages. The government can unite various subjects in the community to form a whole. Moreover, the government can play a leading role in community construction and take on the coordination and organizational functions of urban construction, sanitation, public security, and cultural departments. And then build into a combination of blocks based on blocks. A community management network that performs its duties. Work together to manage community affairs. Our country is in a stage of social transformation, and social contradictions have increased significantly and are extremely complex. If mass self-government is separated from the leadership of the party, it is likely to lead to adverse consequences. The party constitution adopted by the 16th National Congress of the Communist Party of China clearly stipulates that community party organizations lead the work in the region and support and ensure that mass self-government organizations exercise their functions and powers.

International Journal of Science and Engineering Applications
Volume 12-Issue 06, 55 – 57, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1015

2. THE PROPOSED METHODOLOGY

2.1 Institutions, Organizations, and Models: The Value Core of Innovative Community Governance Mechanisms

While emphasizing that community building must adhere to the party's leadership, it must also emphasize the innovation of the party's leadership. The embodiment of this innovation is how the party builds the broadest and most solid social foundation in the community through its own perfect organizational system and active and effective activities in the community, uses non-administrative means to play a leadership role, and realizes the effective integration of the community. Since the reform and opening, in the process of changes in the urban grassroots governance system, my country's community governance mechanism has undergone a transformation from the unit system to the street residence system and then to the community system. On the one hand, urban communities in the era of "post-unit system" are endowed with more diverse functions and richer characteristics; Participation is achieved.

The community governance mechanism is the form and interactive structure of the main body, system, environment, and other elements involved in community governance. These elements influence and interact with each other through certain institutional norms. Promote the healthy operation of the urban community governance system. The subjects of community self-government are mainly community self-government organizations and social organizations, and the government's intervention in the community is mainly through the formulation of laws and regulations and related policies. is an indirect and negotiated approach. Among the large number of scholars who studied in the early stage, Chen Weidong (2004) believed that community autonomy is the institutional arrangement and process for the expression and realization of residents' rights, and we should actively promote the development and development of urban community construction and self-government; To demonstrate the feasibility of community autonomy, Min Xueqin and Huang Canbiao (2012) looked for the possibility and feasible path of community autonomy in China by comparing the community autonomy model in Hong Kong and the mainland community governance model in the Chinese context.

Xiang Deping and Shen Kejun pointed out that the deepening of reforms has brought about fundamental changes in grassroots social life, and community self-government is the basis for reconstructing the grassroots social governance model, which helps to form a governance structure of "small government, big society" and service-oriented governance models. The social transformation of our country is promoted by the government. The innovation of the current community governance model must be promoted by the government, which is also the guarantee for the success of my country's community governance innovation, but a strong government is also a problem that my country's community governance innovation must face. The first is the change of governance philosophy. Community governance should no longer focus on stability but should be people-oriented. To serve the residents as the essence.

Community governance is to create a better living environment for residents. It emphasizes more on humanistic care rather than material care, transforming governance into services, and making grassroots communities a humane residence with a beautiful environment, economic prosperity, democracy, and openness. Under the strong guidance of the reform and opening policy, my country's urban and rural society has undergone tremendous changes. The first impact of this change is the closed resource allocation model under the original unit system and the government's high-intensity single-authority governance structure. However, since my country's economic and social transformation has just begun, on the one hand, the market has not yet developed a complete economic organization to undertake the functions of the unit's outsourcing functional organization.

2.2 Institutional Innovation of Urban Community Governance Model

Community governance is an organic ecosystem, and the benign operation of community governance and the realization of good governance require each participant to play an active role. In recent years, with the accumulation and practice of the concept of service-oriented government and the experience of grassroots governance, the community has gradually become a governance unit that integrates the functions of "leadership", "service" and "autonomy". As a social field of residents' lives, the functions of the urban governance system are becoming more and more clear, especially the role played by governance subjects and the interaction of various participating subjects, which directly affect the operation of the community governance system.

Governance theory emerged in the 1990s, emphasizing diversification, and has been valued in Chinese academic circles, and a huge system of governance theory and practice is being formed. Scholar Liu Wenjing proposed on the basis of governance theory that the future path choice of the Chinese community management model should be a competition-cooperative management model, that is, the community management subject has changed from simplification to diversification, and the governance process has changed from administrative control to democratic consultation, the rational orientation of community governance in which the governance relationship has changed from the relationship of attachment and shelter to the relationship of trust and reciprocity. The combination of government administrative behavior and social autonomy behavior. The state realizes a limited government, and part of the responsibilities are separated from the government and assumed by the society, to build a strong society that can cooperate with the government.

In our country, the awareness of democratic participation of community members is still relatively weak, especially in the management mode that has been accustomed to the government all-in-one contract, it is necessary to use the combination of government administrative behavior and social autonomous behavior. Building on the leadership role of government in community management. Fully and extensively mobilize the enthusiasm of community members and non-governmental organizations to participate in governance, thereby changing the single administrative mode of community governance in the past. Form a model of diversified governance. At the same time as the transformation from "unit person" to "social person", some responsibilities originally borne by the unit have also been transferred to the government. However, the government does not have enough capacity to undertake such a large workload. As a result, the community has become a "basket". To implement the work, it is often simply handed over to the neighborhood committees, which increases the workload of the neighborhood committees, and may not be able to do all these things well.

To return to the role of the neighborhood committee as an autonomous organization, it is necessary to reduce the burden on the neighborhood committee so that it has more energy to carry out self-government activities. But the premise is that these tasks must be organized to undertake. In this regard, it may be considered to set up a comprehensive social workstation to undertake the administrative work currently undertaken by the neighborhood committee, fully activate the leading and mobilizing functions of grassroots party organizations. From the perspective of governance mechanism, it is necessary to strengthen the community party building mechanism and promote the mutual embedding of grassroots party building and community governance systems. Urban community governance and grassroots party building are naturally coupled in terms of subject, purpose, and form. The realization of good governance in urban community governance requires the mutual embedding and organic combination of urban community governance and grassroots party building. Through regionalized party building, grid-based party building, and hub-based party building system innovations, we will improve the basic setup of party organizations and establish a network system that fully covers communities with grassroots party organizations.

3. CONCLUSION

Urban community governance is not only an important part of urban governance, but also the concrete practice and exploration of the modernization of national governance at the grassroots level. The rapid development of urbanization in China has brought new challenges to urban governance, making urban community governance many difficulties. Therefore, the current urban community governance in my country must not only strengthen in-depth research at the theoretical level, but also explore a governance path that is in line with the development trend of urban modernization. With the development of my country's politics, economy, and culture, the community governance model will also be adjusted accordingly to meet the needs of social development. At present, my country's urban community governance model has a lot of room for improvement both in theory and in practice, and it still needs to go through a process of continuous exploration to realize the positive interaction between community governance and social development.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 58 – 60, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1016

Exploration on the Effective Path of Cultivating College Students' English Intercultural Communication Ability

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Abstract: The goal of English teaching is to enable students to use the language flexibly for effective communication. College students often have high expectations for the effect of English learning, and they are eager to apply the knowledge they have learned to daily communication. However, the actual situation of English teaching is far from meeting the needs of students, and students' intercultural communication skills are generally low, which has caused certain obstacles to the future employment and development of college students. Increase the proportion of cross-cultural knowledge, guide teachers in cross-cultural teaching, enhance students' cross-cultural awareness, effectively carry out teaching activities, improve the ability to distinguish cultural differences, adopt a variety of teaching methods, and provide more opportunities for cross-cultural learning. To effectively improve the cross-cultural communication awareness and ability of most students.

Keywords: Reform Path, Online and Offline, Mixed English Teaching

1. INTRODUCTION

The new liberal arts are mainly based on the traditional liberal arts, reorganizing the courses of various majors to form the intersection of arts and sciences, that is, integrating modern information technology into philosophy. In literature and other courses, it provides students with interdisciplinary learning to achieve knowledge expansion and new thinking. With the rapid development of the times, the new liberal arts are not only an inevitable demand under the new situation, but also an important strategic policy for the promotion of Chinese culture. As a very important course, college English must abandon the traditional teaching mode, only by changing the teaching objectives and continuously cultivating many compound talents who understand Chinese and foreign cultures, have solid knowledge, international vision and intercultural communication skills can we truly meet the diverse social needs and promote the sustainable construction of the country.

This article will first introduce the framework of college students' English intercultural communication competence. From this perspective, the understanding of intercultural communication can be enhanced, to ensure the comprehensiveness and in-depth analysis of subsequent problems. The traditional learning of English language knowledge puts teachers in the main position, while the cultivation of intercultural communication ability is just the opposite. Teachers should complete the rational allocation of learning resources and the scientific adjustment of teaching methods on this basis , whether it is from the perspective of teaching content or teaching methods, it should be developed around students, and the main abilities that need to be cultivated include the following aspects.

English teachers combine knowledge of vocabulary and sentences with cross-cultural explanations and use diversified teaching materials and real cases to introduce art, language, architecture, customs, and customs in different countries and under various cultural backgrounds. Based on the integration of cross-cultural knowledge. Change students' past "Chinese English" problems. Develop their ability to think in English. Teachers should be deeply aware of the significance of cultivating intercultural communicative competence in teaching. Choose a reasonable teaching method. Enhance the comprehensive quality of students themselves. At this stage, the cultivation of intercultural communicative ability has become the top priority of college English teaching. This is the requirement of the new curriculum reform and requires teachers to strictly abide by and implement it. This means that teachers must increase the content of college English teaching. Cross-cultural elements are added so that students can clearly grasp the similarities and differences between Chinese and Western cultures, and finally realize the integration and penetration of language teaching and cross-cultural teaching.

However, the new curriculum reform only illustrates the importance of cross-cultural communication, but does not elaborate on the specific teaching plan, which requires most English teachers to explore and research by themselves, so there are obvious differences in the effect of college English cross-cultural teaching. In addition, the teaching philosophy and talent training plan of colleges and universities are quite different, and the successful cases of other colleges and universities cannot be completely copied. Teachers need to formulate teaching plans based on the actual situation of the school and the English level of students. The teaching level puts forward more stringent requirements.

2. THE PROPOSED METHODOLOGY

2.1 An overview of college students' English intercultural communicative competence framework

Teachers should also realize that there is an essential difference between cross-cultural research and cross-cultural teaching. Cross-cultural teaching should be based on cross-cultural research, combined with the teaching philosophy, resources and students' physical and mental development needs of colleges and universities to ensure that the teaching plan is scientific. And pertinence, can really serve the purpose

of cultivating and improving students' cross-cultural communication ability, only in this way can college English cross-cultural teaching be carried out smoothly and efficiently. At present, in college English teaching, the proportion of western culture learning in the classroom is gradually increasing. But for most teachers, they lack the source language environment. Although they have a certain language foundation and some understanding of western culture, they still in actual teaching, it is still impossible to deeply explore the cultural characteristics behind textbook knowledge, and it is also difficult to integrate textbook knowledge and Western culture fully and effectively to students.

In the process of communicating with others, students are not fluent enough in English, and may make social pragmatic errors when facing cross-cultural problems. For example, when facing praise, the answers are completely different due to the differences between Chinese and Western cultures. In the west, the general answer is "Thank you." In China, the answer is: "No, I'm too proud." Through the understanding of the current college English teaching model, it can be found that the learning of English knowledge in the classroom is mainly around with the development of basic language knowledge, many teachers just follow the scriptures when teaching, and the teaching focus is also on textbooks and some test sites. They have not yet gotten rid of the shackles of exam-oriented education and have not explained the cultural background and the culture of the target language. import.

Especially for some non-English students, there are few lectures on foreign cultural and language knowledge, and college students lack opportunities to learn intercultural communication skills under such circumstances. Although teachers have spread some audio and video through multimedia in the information age, they cannot fully apply multimedia to further teach students. Western cultural knowledge, let alone the teaching of target language culture, living habits, and historical culture. It is difficult for college students to complete the improvement of intercultural communicative competence under this teaching mode. Emotional competence specifically includes communicative purpose, communicative attitude, and cultural empathy. The communicative purpose refers to the language environment of specific cultural communication. The communicative party actively participates in and can adapt to the inner will of the object culture's communicative style.

It is far from enough for students to learn relevant cultural knowledge only from the classroom. Teachers require students to supplement classroom knowledge through extracurricular independent learning, further help students consolidate existing knowledge and skills, and actively encourage students to carry out extracurricular independent learning. The integration of resources inside and outside the class and the supplement of knowledge improve the existing knowledge framework and strengthen students' cross-cultural awareness, so that the improvement of cross-cultural communication ability is fully guaranteed. After class, students are guided to carry out diversified practical exchanges, and students are encouraged to participate in a series of cultural exchange activities, in the process of practice, constantly improve one's language ability. A good environment can ensure the actual learning effect, and the environment has a great influence on students, so in the process of cultivating cross-cultural ability in English teaching in colleges and universities Must create a good cross-cultural communication atmosphere. The first is scenario setting. College teachers should make more use of scenario setting to put college students in a state of cross-cultural communication. There can be small script performances, role-playing, and dialogues in the form of lines. In this way, college students More direct access to cross-cultural communication, to gradually get rid of the influence of Chinese negative transfer.

2.2 Research on the training path of college students' English intercultural communication ability

Communicative attitude refers to the communicative party's true attitude towards the object's cultural environment and its own cultural identity. This is the most critical element of emotional competence. Communicative attitudes are mainly manifested in self-concept, tolerance, and openness. Specifically, self-concept is the cognition of the individual. Self-esteem is key. To achieve this goal, it is necessary to add professional knowledge of history, geography, literature, science, and technology to the content of college English cross-cultural teaching, and the learning and dissemination of local culture cannot be ignored in cross-cultural teaching. If they don’t know much about it, they will not be able to find the similarities and differences between Chinese and Western cultures, and they will often confuse their thinking, which is extremely unfavorable for cross-cultural communication; on the contrary, if students have high attainments in Chinese and Western culture studies, they will a clear knowledge thread will be formed in the brain, and learning will also achieve twice the result with half the effort.

The content of college English cross-cultural teaching covers a very wide range. Finally, teachers should face up to the current deficiencies in English teaching, reflect on their own teaching ability and existing problems, and put forward improvement countermeasures for existing problems. On the one hand, they should pay attention to the degree of students' mastery of knowledge, and timely check for gaps. On the other hand Students should be encouraged to apply the knowledge they have learned to practice, be able to communicate proficiently with others in different contexts, continuously enrich students' cultural heritage, improve students' shortcomings in language communication, and provide students with more opportunities for oral practice , step by step to achieve the teaching objectives.

With the continuous development of science and technology, we have now entered the information age, and information technology has already been widely used in society, and the application of Internet technology in college students' English cross-cultural communication can bring them great convenience. There are the following aspects of application. The first is to obtain many resources through modern Internet technology. Without reliable learning resources, it is impossible to carry out practical learning in all aspects. Most contemporary college students lack the opportunity to meet foreign cultures. If teachers' unilateral descriptions alone cannot make students fully appreciate the charm of foreign cultures, let alone understand their living habits and historical background.

Want to enhance students' cognitive ability to various cultures and language development. Improve their English intercultural communication skills. It is necessary to start from the selection of English teaching materials, which is the focus of learning and applying cross-cultural knowledge. In English cross-cultural teaching. The selection and creation of teaching content is very important, cultural differences should be highlighted in language, and language differences should

be reflected in cultural differences. The language dialogue content in the teaching content should be the communication language in real situations. Reproduce real life. According to English teaching objectives and teaching content. Teachers should pay attention to enriching students' language and cross-cultural knowledge, and organically combine language learning with national cultural background knowledge. Let students experience the great influence of different national cultural characteristics on language.

The cross-cultural teaching of college English only teaches European and American culture, and seldom involves the traditional culture of our country, which leads students to blindly pursue trendy ideas and lack interest in their own culture. a great restriction. In recent years, my country's international influence is growing, and more and more countries have realized the strength of China and expressed their strong interest in Chinese traditional culture. Therefore, the introduction of Chinese traditional culture has been increased in English cross-cultural teaching. Cultivating students' sense of national pride and social responsibility is conducive to the inheritance and development of Chinese traditional culture.

3. CONCLUSION

This paper first introduces the framework of college students' English intercultural communicative competence from four aspects, and then analyzes the current difficulties in the cultivation of intercultural communicative competence in colleges and universities on this basis. Some problems faced during communicative learning, and finally put forward relevant solutions to the main difficulties at present, that is, adopting information technology, improving the overall comprehensive quality of teachers, and creating a good cross-cultural communication environment. As the cradle of talent training, colleges and universities should get rid of the shackles of traditional thinking, try to use new and advanced teaching concepts to guide teaching reform, improve and optimize the teaching content, teaching methods and teaching forms of college English, and devote themselves to cultivating students' cross-cultural ability. Cultural communicative competence to meet the basic needs of the country and society for talents, to realize the long-term and healthy development of English education in colleges and universities.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 61 – 63, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1017

Relevance Intelligent Analysis Software Design of Psychological Capital Prediction Algorithm Based on SVM Algorithm to Assist Education

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Abstract:Using this large-scale and complex data from the perspective of AI, and inferring students' learning needs by analyzing students' learning behavior data, psychological capital can significantly predict the psychological harmony level of military officers and soldiers, and can explain 30.3% of the variance of psychological harmony. Psychological capital has a partial mediating effect between emotional intelligence and psychological harmony, and the mediating effect accounts for 72.64% of the total effect. Provide students with different levels of claws beyond the basic content, biochemical learning content and assessment indicators, and the commonly used MHC prediction algorithms SVMHC and SYFPEITHI have better prediction accuracy. Influence of test data set size on test results.

Keywords: Relevance Intelligent Analysis, Psychological Capital Prediction, SVM Algorithm, Education

1. INTRODUCTION

At present, artificial intelligence technology is developing vigorously in various industries, and has been applied in many fields such as finance, insurance, retail, environmental protection, energy, etc., but it is rarely used in the field of adult education [1] adult education is still in the traditional teaching content-centered stage. Regarding the influencing factors of engagement, researchers pay more attention to individual factors and organizational factors, and mostly study the influence of a single factor. From the perspective of the fit between individual factors and organizational factors There is very little research literature on engagement [2].

Use Google Scholar to search foreign literature. Foreign research on psychological capital is relatively early, which can be traced back to the positive psychology movement initiated by American psychologist Seligman in 1998. Correct and beneficial positive psychology." Early entrepreneurship research is mostly from the perspective of economics, mainly from the standard economic model to analyze entrepreneurial behavior, assuming that the entrepreneur is a completely rational economic person [3], this type of research ignores individual differences, does not reveal the reasons for the differences in entrepreneurial outcomes. The idea of "harmony" has always occupied an important position in China. Social harmony and psychological harmony are consistent and are the core of positive psychology (Lin Chongde, 2007, 2012) [4].

Psychological harmony is the adjustment of one's own feelings and experiences in the process of dealing with various relationships and problems, in order to achieve a balanced psychological state (Shi Guoxing, Wang Ziwei, 2013) [5]. Subsequent experimental work is greatly reduced. Immunoinformatics is a new field of bioinformatics, and there are now a variety of suitable techniques for the search and prediction of T cell epitopes. Experiments have shown that peptides with a close binding relationship to MHC molecules are antigenic determinants of T cells [6]. Modern distance education is a kind of technology based on modern information. The students are mainly self-study. A new type of educational technology supplemented by face-to-face tutoring. The Ministry of Education of the People's Republic of China has implemented the "Reform of Talent Training Model and the Pilot Program of Open Education" in the Central TV University [7].

It is modern distance education. So as to solve the problem of conflict between students and staff in early adult higher education. However, how should the pilot unit help or serve the students. Suykens et al. [8] proposed a least squares support vector machine (LSSVM) to solve the regression problem of nonlinear functions. LSSVM replaces inequality constraints with equality constraints on the basis of support vector machines (SVM), avoiding the time-consuming quadratic programming problem [9], and LSSVM can approximate nonlinear systems with arbitrary precision. In summary, it is mainly divided into two categories: traditional Predictive methods and artificial intelligence methods. Due to the development of science and technology, traditional forecasting methods cannot meet the current forecasting requirements. Therefore, artificial intelligence methods have become the main forecasting methods today [10].

Such as artificial neural network method, wavelet analysis algorithm, genetic algorithm and so on. The theories and methods of machine learning have also developed rapidly, attracting the attention of many researchers. At present, machine learning methods have been applied by researchers to data analysis [11], financial market analysis [12], medical diagnosis [13], computer vision [14], speech recognition [15], natural language processing [16], etc. Multiple practical application fields. With the disappearance of human dividends, extensive development has come to an end, and all walks of life are deeply tapping their potential.

The focus of the Open University's work in 2018 requires further promoting the reform of the "six-network integration" talent training model, promoting "network" changes in learning behavior, and improving the quality of education [17]." was searched for the title of the article, the result was 0, and the scope was expanded to search. There were only 3 related literatures with the title of "fit + engagement", 2 of

which studied the impact of individual-job fit on engagement, and the other is to examine the individual-organization fit as a moderator variable [18].

At present, there are more than ten definitions of "psychological capital" in foreign countries. According to the perspective of their definitions, they can be roughly divided into three schools: trait theory, synthesis theory and state theory [19]. Trait theory regards psychological capital as an inherently stable and durable trait of an individual. Entrepreneurs have special psychological qualities, and differences in the internal personality of different entrepreneurs lead to different entrepreneurial outcomes. Entrepreneurs' personal resources, personality characteristics and psychological quality determine the differences in entrepreneurship. Entrepreneurs' business ideals, professionalism and perseverance are very important [20].

2. THE PROPOSED METHODOLOGY

2.1 The SVM Algorithm

In the development of artificial intelligence. Algorithms, computing power, and data are the three basic driving forces, and the most difficult to obtain is data resources. The establishment of CDB Learning Network has paved the way for our data collection. From the connotation of individual-organizational culture fit, it can be seen that when employees perceive that the organization pays attention and support to their material and spiritual needs, they will realize the fit with the organizational culture. After analyzing the research results of domestic and foreign scholars, it is found that employee psychology has a directional influence on their work behavior, and the degree of this influence will be different due to the different knowledge background and rank of employees. Employees with high knowledge background or high rank are more obviously affected by their own psychology.

Maximizing the classification interval is actually the control of the generalization ability, which is one of the core ideas of SVM. Statistical learning theory points out that, in the |v-dimensional space, the samples are distributed in a hypersphere with radius R, and the polynomial or radial basis function classifiers are used for learning and training. It is based on the youngest part of statistical learning theory. At present, it is still in the stage of continuous development. As a classifier, SVM has high promotion performance and does not require prior knowledge. The research of SVM has received more and more attention in recent years. The function of the predictive model in nonlinear predictive control is based on the object. Historical information and future inputs predict its future outputs.

Whether the prediction model can reflect the characteristics of the object is directly related to the stability and accuracy of the controller. In addition, the performance of the ABC algorithm is very unsatisfactory when there are multiple local optimal solutions or valley circles around the full optimal solution of the objective function, which is easy to cause the population diversity declines, and the algorithm converges prematurely.

2.2 The Psychological Capital Prediction Algorithm-Assisted Education

Some mainstream open source communities also provide a lot of free resources for the construction of AI systems, and many open source data collection systems can greatly reduce the design difficulty of AI systems. Therefore, this study believes that when employees perceive the material or spiritual support provided by the organization, they will be confident and hopeful in their work and the organization, and when they encounter difficulties, the support from the organization will also help employees find better coping strategies. A large number of studies have shown that individual or partial psychological capital dimensions have an impact on job performance, and psychological capital as a whole also has an impact on job performance.

Because knowledge workers have similar mental states of other ordinary workers, and their psychological emotions have a more significant impact on their behavior. Under the constraints (2-5) and (2-6), if (2.4) is minimized, then The optimal classification surface in the case of linear inseparability is obtained, which is called the generalized optimal classification hyperplane. The distance between them is called the classification margin. The so-called optimal classification line requires that the classification line can not only correctly separate the two classes, that is, the training error rate is 0, but also maximize the classification interval. For a system with d-step delay, when the input is u(k), the output is y(k+d), using the past input and output of the system and the current u(k), the predicted output of the system can be obtained from the LSSVM prediction model as yˆ(k + d).

The input to be optimized is u(k +1). In this paper, chaos search is introduced into the area search of observer bees to reduce the probability of falling into a local minimum. Compared with other optimization algorithms, it is found that the optimization effect of CABC algorithm is better. In the PSO algorithm, it is assumed that the flock of birds is flying for food in the D-dimensional search space of the problem to be optimized. where the position of each bird is a potential solution to the problem to be optimized. Each bird in the group changes its speed and position based on its position and the experience of other birds.

2.3 The Relevance Intelligent Analysis Software Design of Predictive Algorithm-Assisted Education

Psychological capital is an important factor in entrepreneurship and management to deal with the uncertainty of the modern market. Employees or managers with strong psychological quality can better face environmental changes and risks, thereby improving corporate competitiveness and performance. Because the final discriminant function of the support vector machine actually only includes the inner product and summation of the support vectors, the computational complexity during identification depends on the number of support vectors. The smaller the number of support vectors, the faster the recognition speed. According to the historical data of the HVAC system or the input and output data obtained by sampling the HVAC system, a sample set is formed.

Then, by detecting the ultrasonic signal of the defect, the defect information is extracted and detected. The forecasting method described in this paper and the electricity load of the power grid in a certain area in May 2012 are used to forecast. The electricity load and its related data in the first 28 days of May are selected as training samples, and the data in the last 3 days are selected as test samples to predict the load of the power grid. Empirical research results show that employees with higher psychological capital have higher job performance and performance than ordinary employees. [22] The meta-analysis of self-efficacy done by Lucance confirmed that self-efficacy has a positive relationship with job performance [23].

3. CONCLUSIONS

This article only considers the situation that the Guokai Learning Network of the National Open University has learning behavior records to analyze and discuss how to provide students with personalized learning content. Psychological capital can effectively promote the formation of other capitals. Psychological capital, like human and social capital, can be invested and managed, and its investment is less than other capitals. An LSSVM predictive control algorithm based on PSO optimization is proposed. This method constructs the HVAC system predictive control framework, and only needs the system input and output data to establish the LSSVM predictive model for the HVAC system predictive control.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 64 – 66, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1018

Research on the Innovation of Ideological and Political Education in Higher Vocational Colleges under the New Media Environment

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Abstract: The development of information technology has promoted the profound changes in the state of the media, and the new media has brought opportunities and challenges to the ideological and political education of students in higher vocational colleges. Based on this, the ideological and political educators of students in higher vocational colleges must innovate their work ideas, make full use of the information and technological advantages of new media, focus on the actual situation of students, adhere to the guiding position of Marxism, and explore the ideological and political education in higher vocational colleges based on new media New ways and new methods of work can better deliver applied talents to the society, so that students in higher vocational colleges can go further in their careers after entering the workplace.

Keywords: Ideological and Political Education, Higher Vocational Colleges, New Media

1. INTRODUCTION

With the rapid development of information technology, new media such as Weibo, WeChat, and short videos continue to emerge and widely penetrate all aspects of social life. Compared with traditional media, new media has the characteristics of large amount of information, strong interaction, and high autonomy. This non-linear communication tool is extremely attractive to vocational students who like to seek changes and pursue individual independence, making their thoughts and behaviors quietly change in the interaction with new media. The new situation calls for new changes. The ideological and political education work of students in higher vocational colleges must respond to the changes and challenges brought about by the wide application of new media, based on the actual situation of students, and constantly innovate working ideas, so that new media can become a tool for improving the affinity and effectiveness of ideological and political education. The power of sex. Due to the virtual nature of new media, it is difficult to control the process of information transmission and the content of dissemination, so that the work of ideological and political education is facing a state of disorder.

Similarly, the process of dissemination of information by new media is not restricted by the country, nation, or region. The content conveyed is uneven, and various cultures and values are spread in various spaces with new media as the carrier. In the process, some western values and cultural thoughts that are contrary to my country's mainstream ideology may erode the current vocational college students. There are different opinions on the information on the Internet, which brings certain difficulties to the education of ideological and political workers in higher vocational colleges. The ideological and political educators in these higher vocational colleges do not know how to carry out effective ideological and political education for students, because the information is too fragmented and cannot be integrated, and it is impossible to carry out systematic education for students and help students establish correct thought values and ethics. Teachers should also strengthen the cultivation of their professional skills to ensure that education can be carried out in accordance with relevant requirements. Teachers must improve their teaching management capabilities. Relevant leaders and staff should also strengthen the training of teachers' professional skills and arrange professional Training institutions and related policies, so that teachers can be significantly improved in training and make up for the shortcomings in their own teaching work.

Teachers still need to be assessed in the actual teaching. Teachers who do not meet the qualified standards should take further targeted measures to improve the management level and professional skills of teachers. New media carries rich information, fast update speed, and strong interaction, which makes it more acceptable and recognized by students than the traditional one-way offline communication mode. Faced with this situation, the ideological and political education work of students in higher vocational colleges must conform to the trend of the times with the rapid development of new media, realize their own "new media", obtain more powerful resources and technical support through new media, and realize the optimization and improvement of the traditional education carrier will spread and infiltrate more ideological and political education knowledge, theories, activities and other content with the help of new media, effectively transform the monotonous and boring education methods, and enhance the pertinence, coverage and penetration of education. In the process of traditional ideological and political education, due to the limitations of various factors, the only way to educate students is through newspapers and textbooks.

The teaching form is relatively single, and it is also affected by the teaching level of the ideological and political educators themselves. This teaching mode has not met the needs of today's teaching. The development of new media has broken the time and space limit of information transmission. Teachers can make full use of the advantages of new media in the teaching process, collect rich network resources for students, and make information teaching content based on the Internet, so that students can better arrange their own the study time is used to study, to improve the teaching quality and teaching effect. Teachers want to use new media technology to carry out ideological and political education for students. This method can be implemented, but it cannot be "sheep-herding

teaching". Even if learning and education are carried out on the Internet, management should be strengthened. As mentioned earlier, teachers can build a "new media ideological and political education platform" and record the number of times students' study on the platform.

2. THE PROPOSED METHODOLOGY

2.1 The Real Opportunity Brought by New Media to the Ideological and Political Education of Vocational College Students

Learning can be irregular. Students can study on the platform if they have time, but the number of studies must be sufficient. Finally, the number of studies and the duration of the study will be included in the grades. This not only ensures the freedom of students' learning, but also effectively supervises and manages students' learning levels. Teachers can also understand students' problems and doubts on the platform and explain them in a unified manner. This also improves learning efficiency and is easy for students to accept. Relevant management personnel should pay attention to and strengthen the construction of the current higher vocational college campus network, because Internet technology has been widely used in various fields of society, and by paying attention to and strengthening the construction scale and progress of the campus network, not only can the Internet technology be fully utilized , but also enhance students' enthusiasm for learning.

For example, in actual teaching, teachers should design targeted network assignments for students through the campus network, and can also use WeChat, QQ, etc. to send some political-related knowledge points to students. The rapid development of new media has become an important battlefield for various information, viewpoints, theories, and ideological struggles. Due to their strong autonomy, freedom, and uncertainty, coupled with the tendency of consumerism driven by interests, it is difficult for higher vocational students with relatively lack of social experience and weak ability to distinguish right from wrong to effectively identify massive amounts of information. Get caught up in false, invalid information. This not only seriously affects learning, but also may be gradually influenced by erroneous views such as money worship, hedonism, and utilitarianism, which will have a negative impact on ideas and concepts, resulting in loss of life direction. The Propaganda Department, Party Committee, and academic affairs office of higher vocational colleges must open campus microblogs. Comprehensive quality management personnel conduct ideological and political education and publicity on campus microblogs. According to the laws of physical and mental development of students in higher vocational colleges, they upload educational videos, educational pictures and audio materials make it better to guide students' daily behavior norms. Ideological and political education is highly theoretical, and most of the textbooks contain large sections of theoretical knowledge, which require students to memorize them by rote. There is no innovation in the teaching methods of teachers, and they follow the scriptures without any new ideas.

The enthusiasm of the students in class is not high, and they are not interested in ideological and political courses. They are listless, and the classroom atmosphere is often dead. In fact, for this situation, teachers can appropriately change and innovate teaching methods according to the actual situation. They can use new media technology to conduct ideological and political education to students in the form of video, audio, and pictures, and they don't have to be confined to books. It is also possible to organize some activities on ideological and political education, so that students can participate and experience it for themselves. In this way, the teaching effect may be better than indulging in book education, and students can accept and like it more. It should be noted that administrators should grasp and understand the individual needs of students, do a good job in targeted teaching, and improve the participation of students themselves. To ensure and promote the integration of students into the actual learning atmosphere, the relevant management personnel of higher vocational colleges must also build a comprehensive website for students, providing students with many learning resources. Students' own learning characteristics and learning ability, through the establishment of a campus network, can reduce the teaching pressure of teachers to the greatest extent and improve students' self-learning ability.

2.2 The Method of Using New Media to Ideological and Political Education of Higher Vocational Students

Some students in higher vocational colleges have poor self-management ability and strong rebellious psychology. The traditional ideological and political education model has a strong color of indoctrination. With the increasing application of new media, it often results in students' low degree of recognition and participation, and fewer opportunities for self-display, which is not conducive to highlighting the effect of educating people. Faced with this situation, higher vocational colleges should adhere to the life-oriented and strive to build a "three comprehensive education" system.

The first is to promote all educational subjects to work in the same direction. In the teaching process, teachers should thoroughly implement the professional ethics concept of lifelong learning, and constantly optimize their own teaching methods, so that students are more willing to study driven by their interests. In the context of the new media era, teachers should master practical skills in using computer software, use the Internet to collect audio and video related to teaching topics, and produce vivid and contemporary educational materials for students, so that new media can play an important role in ideological and political education. play to its strengths.

The characteristic of teaching students in accordance with their aptitude is "don't put all eggs in the same basket". Educating students according to their personality and strengths is a classic teaching method with a strong scientific nature. Students in higher vocational colleges often have very different personalities. Many students have developed some bad habits because of browsing bad information on the web; some students are relatively well-behaved and have no bad behaviors.

Therefore, teachers should carry out different education according to students with different spiritual ideology and morality, when building the campus network of higher vocational colleges, we should also pay attention to the overall quality of the construction. For example, to meet the learning needs of students for self-study, the administrators of the college can build a variety of websites for students. The construction of such a variety of websites Mainly use new media technology as the main medium, and then carry out educational work for students. The construction of this kind of campus network can not only innovate educational work, but also significantly improve students' learning efficiency.

3. CONCLUSION

In the era of new media, ideological and political educators in higher vocational colleges must seize the opportunity, constantly innovate their work ideas, use the advantages of new media, improve students' ability to effectively collect, analyze and dispose of ideas, information and theories, and integrate new media Effectively integrate with the ideological and political education work of students in higher vocational colleges, fully demonstrate the interaction, nature and autonomy of the work, actively and comprehensively learn new media technology and new media operation knowledge, in order to better understand higher vocational colleges Students implement ideological and political education to improve the effect of ideological and political education and the political and ideological awareness of higher vocational students.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 67 – 69, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1019

Big Data Information System Helps Online System Research and Development of Education Reform in the New Era

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Abstract:This paper analyzes the effective combination of extreme curriculum education big data and school teaching reform from the perspectives of teaching management, subject lesson preparation, classroom teaching, after-school tutoring, home-school co-education, etc. It is possible to accurately improve teachers' ability to interpret the curriculum standards and professional level. Especially in the situation of "tight days", it is more necessary to use technological innovation to improve the quality of teaching. Entering higher vocational education in the context of the Internet era, and using artificial intelligence to improve management teaching programs, we should correctly understand the role of artificial intelligence technology in daily life. In the process of education and teaching, teachers should change traditional concepts, adapt to the development of the times to learn new technologies, and improve teaching methods to help students develop.

Keywords: Big Data Information System, Online System Research, Education Reform

1. INTRODUCTION

Advances in machine translation (MT) have been driven by"China's Education Modernization 2035" proposes "accelerating education reform in the information age" and "focusing on building a new education and teaching model, education service supply model and new model of education governance based on information technology" [1]. In order to speed up the modernization of education and the construction of a powerful country in education, and strengthen the concept of talent training based on ability and a new model of education governance" [2].

In order to speed up the modernization of education and the construction of a powerful country in education, and strengthen the concept of talent training based on ability Teaching for maximum development of students" [3]. Differentiated teaching requires attention to students' individual differences while paying attention to the commonality of students. Continuing education in colleges and universities should promote the concept, characteristics and advantages of adult education, keep pace with the times, grasp and use modern mobile information technology, in order to obtain a full understanding of the society and Recognize, quickly and effectively promote the informatization construction of continuing education teaching management, establish a benchmark for continuing education, and create a brand reputation for continuing education [4].

Artificial intelligence is abbreviated as AI. It is a technology that can produce human-like reactions when people interact with machines through computer data processing and multimedia equipment [5]. This technology is widely used in robots, image recognition, language recognition, natural areas such as language processing and expert systems. Artificial Intelligence (AI) is a new technological science. First, it expands educational ideas. In the process of network ideological and political education in colleges and universities, the use of big data has effectively expanded the overall educational thinking [6].

Through a comprehensive analysis of data and information, explore the nature of information, rather than information dissemination. It is the research and development of theories for simulating, extending and expanding human intelligence (such as learning, reasoning, thinking, planning, etc.) [7], method, technology and application system, mainly including exploring the principle of computer realizing intelligence, and producing a new intelligent machine that can respond in a way similar to human intelligence. By 1945, the population of the United States had reached 139 million, and most of them were immigrants from Europe [8]. In terms of social culture, active nationalism has gradually become a feature of American political and cultural life since the American-British War in 1812. President Jackson came to power to eliminate the power of the eastern elite and to fight for the right democracy for the emerging bourgeoisie [9].

It can be seen from the figure that the function value increases with the increase of the independent variable, namely the user level, and the upward trend becomes smaller and smaller. This is because the highest level of users in this paper is 45 [10]. After the user level reaches a certain level, their trustworthiness is already relatively high, so as the level increases, their trustworthiness changes less. Most teachers use computer-based courseware to teach [12]. Although the utilization rate of educational information equipment is relatively high, compared with the application of modern technology, educational ideas and concepts are still in the traditional education stage. Bless. At the same time, it can effectively solve various problems faced by education and teaching [13].

The analysis and prediction function based on educational big data can provide targeted solutions for school education and teaching problems, so as to improve the quality of education and teaching in rural schools and promote the good

development of left-behind children. In addition to basic indicators such as "highest score", "lowest score" and "average score", "Zhixue.com" also provides a comparison chart as shown in Figure 1 [14], allowing teaching managers to intuitively and clearly see the differences between the seven test classes. Understand the teaching differences of the same teacher in different classes, analyze and summarize the development factors (individual factors of students, teacher-student relationship factors, class coordination factors, etc.) in the process of class growth [15]: Diversity, complexity, and uneven educational levels; the motivation or purpose of learning varies from person to person, updating knowledge, improving skills, charging in the workplace, and improving academic qualifications [16].

2. THE PROPOSED METHODOLOGY

2.1 The Big Data Information System

Although Internet technology is used in school teaching, the use of information equipment in teaching still remains at the stage of converting "small blackboards" into "projectors". Collect, mine and analyze. Teaching resources provide various teaching materials for the effective development of teaching, including teacher resources, teaching aids, infrastructure, etc. On the one hand, the shortage of teaching resources in rural areas is due to the imperfect educational infrastructure and lack of hardware facilities, and the teaching method is not conducive to the improvement of the academic performance of left-behind children. [17].

Understand the teaching differences of the same teacher in different classes, analyze and summarize the development factors in the growth process of the class. For example, in the face recognition technology, artificial intelligence and intelligent monitoring systems and intelligent information processing systems are compared in a large database to identify To lock in the target identity, vocational colleges focus on cultivating skilled talents suitable for grass-roots positions. The application of artificial intelligence in all walks of life will bring great changes to grass-roots positions, especially skilled positions. The development of artificial intelligence. It plays a major role in the national security system and commercial security system; in daily life, the bank business counter performs human-computer interaction through multimedia technology. First, start data collection from the perspective of big data awareness.

In the era of big data, the development of online ideological and political education in colleges and universities should pay more attention to the effective improvement of the current data collection work. To realize the structural reform of school teaching, it is necessary to clarify who is the main body of the use of educational information equipment. "Learning as the center" is the essential requirement of classroom teaching reform in the era of education informatization 2.0. However, it is based on the following "three pairs of contradictions". Children who are far away from their parents are very likely to develop poor self-psychological cognition, and they are in urgent need of others psychologically. Under this circumstance, interpersonal communication in the school environment is particularly important, and good campus humanities are crucial to the development of left-behind children's good personality and psychology.

2.2 The Education Reform in the New Era

The quality inspection work in production and manufacturing has begun to be replaced by intelligent inspection robots with image recognition function; the emergence of unmanned banks and unmanned supermarkets has led to the disappearance of traditional jobs such as supermarket salespersons and bank counter positions. Only in this way can information be obtained scientifically and effectively avoid insufficient data scale and affect the accuracy of data analysis results. In the process of actual education work, it is also necessary to fully understand the current ideological status of college students, and at the same time, combine the students' own activities, speech and behavior and other relevant data to analyze the focus of the current network ideological and political education work.

The recall rate values show a steady increase, and the recommendation effect is obvious (the recall rate is more prominent). While the performance of the baselines tends to be stable, they do not have much advantage in recommending multiple types of attractions, especially the UBCF algorithm. In the future, schools will be smart campuses where information technology and education are symbiotically integrated, and will be fully realized from refined governance to personalized services. The integration of information technology and education can start with the creation of intelligent teaching assistants. Teachers are the bearers and executors of school education. The key to the success of school education lies in teachers. Teacher behavior, teacher effectiveness and teacher quality will all affect left-behind children. influences. First of all, the quality of teachers as knowledge imparters, classroom managers and students' evaluators will inevitably affect the knowledge acquisition of left-behind children.

2.3 The Online System Development for Education Reform in the New Era

In response to problems in school education, educational big data can help left-behind children's school education, improve educational means so that left-behind children can get school education that suits their own expectations, and realize personalized learning for left-behind children through learning analysis technology. Precisely locate the drop point. In the "answering questions" (as shown in Figure 5), different colors indicate the score rate of the students' test papers, and the most striking red in the front is the question with the most points lost by the students. According to this simple diagram, teachers can clearly understand the key points of the lectures at a glance, and effectively avoid the ineffective labor of "talking to the end" and "blind commenting".

Artificial intelligence technology can be effectively applied in university libraries, canteens and student dormitories. The fingerprint recognition system and face recognition system are perfected. Artificial intelligence not only has a profound impact on the training of students in vocational education, but also contributes to vocational education itself. The morphological construction and internal governance of China brought new conditions. With the construction and development of smart campuses in higher vocational colleges. In campus life, students' own living space is relatively narrow, and their social behaviors and lifestyles are very simple. They are basically "three points and one line" life. The relevant data are relatively limited.

3. CONCLUSIONS

School education has a crucial impact on the formation of an individual's outlook on life, world outlook, values, and good will. It is the most prominent part of the future development of left-behind children. Especially at this stage, everything is being explored. How do teachers observe Data, analyzing

data, and how to understand the problems behind the data are all things that need to be considered and faced in the process of school teaching management. Promote precise management and scientific decision-making. After more than ten years of rapid development after being upgraded and established, higher vocational colleges are currently in a critical period of in-depth connotation construction. On the basis of deepening the reform of education and teaching, they have put forward new ideas for the internal governance system of the campus.

4. ACKNOWLEDGEMENT

2021 Ideological and Political Education Project in Colleges a nd Universities in Guangdong Province: Research on the Cons truction of Labor Education Practice System in Colleges and Universities (Project Number: 2021GXSZ186)

The 2022 annual project of the "14th Five-
Year Plan" of Shenzhen Education Science: "Golden Class" of labor education in vocational colleges (project number: Cgpy 22026).

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 70 – 72, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1020

Analysis of the Integration of Red Thoughts in Labor Education

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Abstract: At present, with the steady advancement of the new curriculum reform education concept, the labor education advocated in it is even more crucial to the development of students. Through labor education, students' physical fitness and spiritual will can be cultivated, which is one of the keyways to improve students' comprehensive ability and quality. In the labor education, the comprehensive ability and quality of students can be better cultivated. Therefore, under the discussion of new educational ideas, integrating the red spirit into the labor education of higher vocational students has been recognized by many educators and related educational institutions. Considering the characteristics and interoperability of labor education and red culture education, it is targeted Integrating red cultural resources into the education model of multi-category labor education for college students can not only "live" red culture, but also give spiritual nourishment and guidance to labor education, thereby promoting the overall growth and development of college students.

Keywords: Red Thoughts, Labor Education

1. INTRODUCTION

All the colleges and universities in our country have always attached great importance to the inheritance of red genes and red cultural education and strive to fully apply the "red genes" to college teachers to do a good job in the ideological and political education of young college students in the new era, and to apply them to the whole process of young college students' growth and success. Since the promulgation and implementation of the "guidelines for labor education in universities, middle schools and primary schools (trial)", as an ideological and political worker in colleges and universities in the new era, I have thought about labor education in colleges and universities in an all-round way, and conducted in-depth research and practice, and seriously explored and understood the connotation of the integration of red genes into labor education. and meaning, strive to explore the effective way to integrate the red gene into labor education in colleges and universities, fully and effectively combine the red gene with labor education, and fully combine labor education with moral cultivation, which has an irreplaceable role in consolidating the achievements of ideological and political education.

The Marxist view of labor, with the concept of labor history, labor happiness and labor liberation as the main content, is the deepest theoretical foundation of labor education and the guiding ideology of labor education practice in our country. The development of labor education in our country has experienced some twists and turns, and there have been some disputes in the practice, but insisting that labor education is a social consensus, the combination of teaching and labor has always been the basic guarantee for education to serve the people, and has always been the basis for ensuring the nature and direction of socialist education, is always the only way to train socialist builders and successors. Different from the goals of labor education in primary and secondary schools, labor education for college students is a future-oriented education, and it is also a stage in which the focus of education is transitioning from school to society. Through labor education, the overall quality of students can be effectively improved.

In addition, in the process of labor, students can also properly carry out physical exercises to improve their physical fitness. The body is the capital of the revolution, and the body is an important cost for future development. During the learning stage, through labor education, students' physical fitness and physical fitness can be exercised, and students' physical fitness and ability to face future work can be improved, to prepare students for future work. has important help. Integrate the red gene into the labor education work of colleges and universities, further extend the role of red culture in ideological and political education, infiltrate the red gene into labor education in colleges and universities, and achieve the effect of all-round influence on the majority of young people, so that they can further inherit the good the red gene blooms youth through hard work and personal practice. At the same time, through personal practice, we will further improve career planning and academic career planning, so that the development of young students will be fuller of vigor and vitality, and they will gain more satisfaction. Due to the long-term influence of the previous exam-oriented education, the educated people are separated from the practice of labor education in the stage of campus education, and the phenomenon of emphasizing intellectual and moral education and ignoring labor education is very serious.

Based on vague labor cognition, it will inevitably affect the formation of correct labor consciousness. The dislocation of labor cognition and consciousness is the cognition root of labor education dilemma. Most students think that labor is their own business, but not their own responsibility. It believes that labor is a basic right of people and the basic guarantee of people's right to survival and development, but it does not think that labor is the basic way for people to assume social responsibility. The reason is that it ignores the essence of human beings. As a social individual, people are wrapped in social relations. They not only need to create their own

value through labor, but also develop morality, intelligence, physique, art, and labor in an all-round way. It is required that students not only learn professional cultural knowledge, but also cultivate students' spiritual will through labor. In teaching, many schools pay too much attention to the improvement of students' performance, and then neglect the cultivation of students' labor ability and spiritual civilization.

2. THE PROPOSED METHODOLOGY

2.1 The Significance of Integrating Red Thoughts into Labor Education in Colleges and Universities

In the current education for students in higher vocational colleges, it is necessary to change the concept of education and continuously cultivate students to establish a good quality of spiritual civilization by integrating the red spirit into labor education. In the social practice of students, the correct integration of the red gene can further optimize the overall labor education work in colleges and universities. As a new teaching method, social practice is also the key to the ideological and political teaching work in colleges and universities, and it is also an effective way to improve the diversity of labor education work. Teachers can organize students to carry out corresponding social practice through teaching objectives and content, so that students can feel the knowledge content more intuitively. They can also effectively use related activities such as on-site "red day reading" and summer social practice to organize students to carry out red cultural knowledge learning activities. In order to further enhance students' sense of identity with the red gene, and stimulate their sense of historical responsibility and strong patriotism, in the work of labor education in colleges and universities, they should also actively use new media resources in society to further improve the means of labor education communication and increase overall work efficiency, so as to meet the needs of a high degree of integration of red genes and labor education. As the practice of individual growth, labor education must involve all aspects of individual physical and mental growth.

If we only focus on the cultivation of individual body-intellectual labor knowledge and labor skills, then to some extent, we ignore the basic value of "culture" in a higher sense for individual growth. Labor education, with its unique "body" and "heart", fully participates in practical education activities, and has a special educational charm in the cultivation of students. But no matter how complicated the labor is, it contains certain technical content and requires certain knowledge to guide. Match the content of red culture with the form of labor in a targeted manner, play the role of students as the main body in a creative, three-dimensional, and multi-dimensional coupling mechanism, deepen students' emotional experience and cultivate students' creativity, to guide students to develop freely and comprehensively. In carrying out labor education, students' learning characteristics and status of physical and mental development should be fully considered. The teaching of higher vocational colleges is the same as the teaching of general colleges, and the teaching atmosphere also plays an important role in stimulating students' learning enthusiasm.

Therefore, in the labor education, higher vocational colleges can also adopt the method of creating a learning atmosphere, promote the red spirit in a certain atmosphere, and strengthen the cultivation of students' spiritual civilization ability. The construction of campus culture has become an important way of labor education. Integrating the red gene into the construction of campus culture, on the one hand, it can run through the red gene in the construction of campus culture, and on the other hand, young students can show the red gene through original works in the construction of campus culture, which will guide the behavior of young students and enhance cultural identity, improving creativity is of positive significance. For example, in art groups in colleges and universities, it is possible to create dramas on images such as Dong Cunrui and Jiao Yulu, and through the students' dedication to performances, the influence and appeal of red content in labor education in colleges and universities can be further enhanced.

2.2 The practice of integrating red culture into college students' labor education

The red culture is the product of the spirit of the times accumulated by our party in the process of revolution, construction, and reform to continuously adapt to the needs of the times. The red culture, which embodies the spirit of innovation, is the concentrated expression of the history of struggle in our country, an important material that affects the development of college students' thinking, and a precious educational resource in our country. In speculative labor education, it is necessary to implement the educational process of "seeing, listening, thinking, understanding, and doing", give play to the influence of red culture on students' thinking in the process of labor education practice, and encourage students to look at things dialectically with rational thinking, and constantly overcome difficulties and constantly meet challenges. The creativity and complexity of mental work participation is an important prerequisite for labor education to promote the improvement of human intelligence.

Integrating the red culture with high educational value into the practice of labor education, it is necessary to always emphasize individual experience, stimulate creative thinking of college students with interesting and educational labor activities, strengthen the entrepreneurial practice of college students, and make them more effective in labor practice. Carry forward the spirit of work. In labor education, in addition to using field labor, it can also be conducted and taught through modern multimedia equipment. For example, there are many labor models in our country. In the development of society, labor models have made many important contributions to social development. Stories such as Iron Man Wang Jinxi can be used as the main teaching content to convey the content of labor education and the content of red spirit. In class, teachers can play relevant labor videos to students and tell students about the advanced deeds of model workers. In this way, a good educational and learning atmosphere can be better created in the classroom, and students' learning and understanding of relevant content can be stimulated.

The ideological and political education team in colleges and universities is the main force of labor education. To do a good job in labor education, we must conduct in-depth research on the red gene and become a promoter and disseminator of red culture. First, we can activate the red gene thinking of the ideological and political education team by holding a series of activities such as "reading the red family letter", show the charm of the red gene through rich activities, deepen the understanding of the connotation of the red gene, and form a systematic cognition further master the rules of educating people. Secondly, the ability to interpret the red gene can be comprehensively enhanced through various methods such as regular expert training, academic seminars, red gene exploration, and red culture field visits. The reason why red

culture is positioned as "red" is because its spiritual content represents the pursuit and persistence of justice in the hearts of the Chinese people, and it implies our respect and love for red culture. We always maintain admiration for the content of red culture. Heart. Labor is not a mechanized and repetitive labor, but an "art" that contains aesthetics. Art is a two-way channel for emotional expression and acceptance. Art creation is full of strong emotions and the strong audio-visual impact and spiritual shock of the reproduction of its historical situation can effectively mobilize the sensory impact of art appreciators and creators and stimulate people's emotions, open people's imagination and touch people's hearts.

3. CONCLUSION

Labor education is an indispensable part of my country's education system. Integrate the red gene into labor education in colleges and universities to cultivate students' self-reliance, self-improvement, hard work, not afraid of difficulties, and the spirit of forging ahead. To further inherit the red gene in labor education in colleges and universities, pay attention to the educational function and connotative value of the red gene, and actively explore the realistic path of integrating the red gene into the labor education work in colleges and universities, but under the guidance of the principles of Marxism, cross-integration and mutual benefit The "mutual growth" relationship, the integration of the two is not only the requirement for the continuous improvement of labor education for college students, but also the need for the construction of red culture itself, which can continuously train excellent college students for the cause of socialism.

4. ACKNOWLEDGEMENT

2021 Ideological and Political Education Project in Colleges a nd Universities in Guangdong Province: Research on the Cons truction of Labor Education Practice System in Colleges and Universities (Project Number: 2021GXSZ186)

The 2022 annual project of the "14th Five-Year Plan" of Shenzhen Education Science: "Golden Class" of labor education in vocational colleges (project number: Cgpy 22026)

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 73 – 75, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1021

Design of BBS Information Collection and Intelligent Semantic Analysis and Screening Algorithm of Network Training Platform

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Abstract:This paper attempts to do part of the exploration work on the application of big data in the study abroad industry with semantic technology, and builds a potential study abroad customer data collection system based on semantic technology, and mines the potential study abroad customer data from the corpus big data of public social media. This paper presents a disambiguation algorithm based on "HowNet". The algorithm uses the four relationships contained in the semantic origin of words to discuss the timeliness of carrying out online ideological and political education for college students through new network media and various forms of communication. It shows that the education platform has indeed achieved a positive interaction with students, allowing students to be educated and inspired, thereby improving the pertinence of college students' ideological and political education. Calculate the correlation between words and the correlation between words and their contexts, and then achieve the purpose of word sense disambiguation.

Keywords: BS Information Collection, Intelligent Semantic Analysis, Network Ideological Education

1. INTRODUCTION

Potential customer data (or potential customer information) is the basis for the survival and development of any business company, especially for study abroad institutions. As a branch of the consulting industry, study abroad institutions have no investment in fixed assets and raw materials [1], and their main expenditures are used to obtain potential customer data through marketing. However, the rapid growth of Web information, while providing people with rich information, is in web information. The efficient and convenient use of Web brings great challenges to people: on the one hand [2], there is a wide variety of information on the Web, and on the other hand, it is difficult to find really useful information.

The spirit of this important instruction is the requirement for the innovative development of political work from the strategic commanding heights of the times [3]. As an important part of political work, ideological and political education is how to better integrate with network technology today, and strive to create a new form of online ideological and political education [4]. The key to strengthening online ideological and political work lies in people! Establish a network of ideological and political work Team! is the primary task of building a network platform for college students' political and ideological education. At present, it is difficult for college ideological education teams to meet a series of challenges presented by the Internet age [5].

At present, various colleges and universities have established their own campus local area networks, and have also carried out certain explorations on network ideological education [6]. In order to adapt to the development trend of network ideological and political education in the mobile Internet era, a collection of websites, mobile micro The "four-in-one" online education platform such as website [7], official Weibo, official WeChat, etc. is an important task of Liaoning College Students Online Alliance at present and in the future. However, at the same time, we must also clearly recognize that the current network ideological education in colleges and universities has major problems such as the lag in the construction of network ideological education platforms [8], the low click-through rate of ideological education websites, and the lack of professional talents in network ideological education. Internet thinking was first proposed by Robin Li, founder of Baidu [9].

In 2011, Li Yanhong mentioned in a speech: "Entrepreneurs should have Internet thinking in the future. Maybe what you are doing is not the Internet, but you must gradually use the Internet to think about problems. The connotation and extension of the educational process [10], elements and There are few direct and pertinent discussions on core issues such as structure, dynamic operation mechanism, contradictions and laws, and the only targeted research is not systematic. At present [11], many researches still remain at a relatively peripheral and indirect level, such as network Discussion on basic social issues. From the beginning of the 1980s to the middle of the 1980s, the tofu-sized study abroad service advertisements published in the supplementary information of the Shanghai Xinmin Evening News attracted hundreds of telephone consultations on the first day of publication [12].

Now, overseas study institutions can hardly obtain potential customer data by publishing print media advertisements in first- and second-tier cities. A retrieval-type search engine is a search engine that provides users with direct input of keywords to find information [13]. Its retrieval is convenient and direct, and you can use Boolean logic query, phrase query, proximity query, fuzzy query, natural language query and other retrieval methods. HotBot, Infoseek, Google, etc. are typical representatives of such retrieval tools. Therefore, it has become a development trend to speed up the establishment and improvement of network ideological and political education in higher vocational colleges [14]. The Environmental Engineering College of Kunming Metallurgical College has established an exclusive network

ideological and political education platform for this practical need, and has played a huge role in practical work [15].

Use the comprehensive expressive power of sound#text# to express the content of education! Increase the capacity of education information! Enhance the appeal and attraction of education! [16] Only then can the effectiveness of ideological education for college students be improved." and basic principles, firmly establish the strategic awareness of online ideological education in colleges and universities; insist on serving and educating people, comprehensively strengthen the website construction of college online ideological education; strengthen team building [17], and provide talent guarantee for college online ideological education. It can realize the PC terminal of Liaoning College Students Online Alliance. It is an educational carrier for unimpeded access with mobile terminals, self-built websites and Weibo and WeChat social networking sites [18]. As far as PC-side websites are concerned, we strive to break the isolation of traditional PC-side websites, and seek the cooperation between Liaoning University Student Online Alliance and campus networks of various colleges and universities between [19].

2. THE PROPOSED METHODOLOGY

2.1 The Online Ideological Education Platform

An open learning mentality. Counselors must first understand and learn Internet thinking to carry out online ideological education. The key to Internet thinking lies in an open learning mentality. For example, some counselors believe that too much Internet access is harmful to students and teachers. The good thing is the need to enhance the effectiveness of ideological and political education for college students.

With the advent of the mobile Internet era and the changes in students' personality characteristics, the traditional one-way-led, face-to-face ideological and political education model has been unable to meet the psychological needs of students, and the effectiveness of education has gradually been weakened. Aiming at the inefficiency of traditional industries, taking advantage of the situation, savagely crossing the border, reshaping new ideas, rebuilding new models, developing new markets, integrating inefficiencies with high efficiency, better meeting user needs, improving user experience, and then completely changing traditional industry structure. A typical case is Didi. It mainly focuses on the relationship between elements in the practice of ideological and political education, the specific operational links and procedures of educational practice, and the contradictions and laws behind these "relationships", "links" and "procedures".

On the other hand, in view of the problem that the definition of the current ideological and political education process is too general but not clear enough. As the key node of the input of national education to the society, the ideological and political education in colleges and universities is more difficult to grasp the public opinion orientation of young and middle-aged students in the field of ideological struggle. significance. Colleges and universities are ideological positions with a high concentration of ideology and culture. When conducting work related to online ideological education at the counselor level, counselors should maintain the concept of openness and learning, build a collaboratively promoted online ideological education platform, and form a reasonable network ideological education team. , formulate a standardized management and operation system, gradually infiltrate and carry out network literacy education, strive to create a good network culture, and pay attention to the experience summary and law research of network ideological education.

2.2 The BBS Information Collection

The work of system design research mainly includes three parts: (1) Constructing a semantic dictionary in the field of studying abroad; (2) Researching the identification algorithm and age-appropriate situation judgment algorithm based on the domain dictionary. (3) Develop a system that carries algorithms and realizes automatic operation. First, for the links extracted from the collection page, use the extended metadata correlation determination algorithm based on semantic analysis to calculate the topic relevance of the URL; then filter out irrelevant links according to the preset threshold for pruning to reduce irrelevant links. The number of pages, improve the speed and efficiency of topic information search. The network ideological and political education expands the way of education, and the speed of modern network development accelerates the spread of education.

Due to the large amount of network information, fast speed, and its influence greatly exceeding any means of communication, the combination of ideological and political education work with the network is the unique information integration of the network. % (is the core content of ideological and political work in colleges and universities "must organically combine the main position of ideological and theoretical education with the new position of network ideological education! Mutual penetration! and a reasonable operating group. Network ideological education should rely on the network platform. In the context of the rapid development of mobile Internet and new media, the coordination of multimedia platforms is very necessary.

2.3 The Design of Intelligent Semantic Analysis and Screening Algorithm

Semantics is the soul of natural language, the most flexible part of natural language, and the source of word ambiguity. Based on the existing disambiguation strategy based on "HowNet", this paper solves the problem of word sense ambiguity from the perspective of semantics. In some restricted domains of natural language processing, these general-purpose dictionaries are of limited use. The construction of domain-specific terminology dictionary has important theoretical and practical significance in many research fields of natural language processing, and it is a "basic problem" that affects many other application problems in the field of natural language processing, such as the field of studying abroad. The matching strategy S sees the absolute error and MAD. This paper uses the absolute error sum of the prediction block and the original image, because when doing motion estimation

In today's diversification of information channels, the ocean of knowledge is so vast, the pattern of being limited to a single environment has been broken, the mode of students' acquisition of knowledge is more in line with the needs of cognition, the concept of education subject and object is gradually blurred, and the status tends to be equal. Only a reasonable team can be formed to ensure the continuity and pertinence of online ideological education.

Responsible for the formulation of the development plan for the construction and development of the ideological platform in colleges and universities in the province, the integration and sharing of resources of the ideological and educational platforms in various colleges and universities, the construction

and development of the Liaoning University Student Online Alliance, the special training for the backbone of the province's colleges and universities' network propaganda and ideological work, and the The development of network propaganda and ideological activities in colleges and universities, etc. The formation of a team can be divided into two aspects. On the one hand, through the establishment of a counselor studio and other means to strengthen the cooperation between like-minded counselors, and now we are relying on the "counselor professional ability improvement counseling room" WeChat public account is also very good attempt. The statistical information of words is expressed as a word vector set or a certain probability relationship between words and texts, and the implicit identity in the corpus set is analyzed accordingly. The frequency of such characteristic words is used as the identification feature of writing style, and it is easier to be used as the identification feature of writing style.

3. CONCLUSIONS

Combining the above requirements, the BBS Internet behavior characteristics of overseas students, and the development status of semantic technology, this paper conducts a new generation of "Internet +" research on the design of a data collection system for potential overseas students based on semantic analysis technology. Based on the construction of a complete evaluation content system, through scientific evaluation procedures, objective and real evaluation results are obtained. The purpose of the evaluation is the application of the evaluation results of online ideological and political education in colleges and universities. However, it will inevitably give birth to a series of reforms and developments, bring about changes in the field of ideological and political education, and provide new ideas and methods for ideological and political education in colleges and universities.

4. ACKNOWLEDGEMENT

2021 Ideological and Political Education Project in Colleges a nd Universities in Guangdong Province: Research on the Cons truction of Labor Education Practice System in Colleges and Universities (Project Number: 2021GXSZ186)

The 2022 annual project of the "14th Five-
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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 76 – 78, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1022

Research on Ideological and Political Integration of Labor Education

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Abstract: Labor education is to change students' labor value orientation by giving full play to the educating function of labor, and to carry out educational activities for students to be enthusiastic about labor, respect, love, and support working people. Labor education has the comprehensive educational value of building morality, increasing intelligence, strengthening body, and cultivating beauty. It can promote the all-round development of students and directly determine the future labor awareness, fighting spirit, work style and labor skill level of young people. The integration of the two follows the internal logic of the unification of "five education integration" and "three comprehensive education", the combination of general labor and general education, and the appropriateness of education methods and education goals. From the dimensions of setting three-dimensional education goals, establishing a collaborative education mechanism, and implementing a specific sports path, an operating system for multi-party collaborative education can be constructed.

Keywords: Ideological and Political Integration, Labor Education

1. INTRODUCTION

Labor education has gradually become an important topic in the study of socialist education with Chinese characteristics in the new era. Since the 19th National Congress of the Communist Party of China, our party has further enriched and developed the Marxist concept of labor and the connotation of labor education in the new era based on fully inheriting the historical tradition of labor education under the new historical position and background of the times. College students in the new era are flexible in thinking, full of individuality, broad in knowledge, and strong in social responsibility, and generally have a positive outlook on labor.

In a class society, labor alienation leads to inequality among laborers due to social relations. Under the socialist system, the society adheres to the basic distribution system of "distribution according to work", regards labor as a yardstick for measuring social contribution and distribution of interest cakes, and regards the pursuit of common prosperity as the essential requirement of socialism, recognizing and acknowledging the human nature of labor, Make the laborers form the concept of labor equality in the shaping of the concept of equality and the virtue of equality. The starting point of "three comprehensive education" is to realize the transformation of educational subjects from individual to community, educational methods from one-dimensional to multi-dimensional, and educational effects from one-sided growth to comprehensive development. The "integration of five educations" to cultivate newcomers in the era has rationally become the foothold of "three comprehensive education". Therefore, the integration of labor education into curriculum ideology and politics not only fits the educational concept of "integration of five educations", but also conforms to the educational pattern of "three comprehensive education".

When college students participate in various forms of labor practice such as daily labor, practical training, intangible cultural inheritance, and grassroots services, they will encounter difficulties such as difficult living conditions, high work pressure, and lack of labor skills. This requires a certain amount of perseverance and perseverance. Quality to overcome, in the continuous training, students will gradually cultivate the labor spirit of diligence, struggle, innovation, and dedication, have a clearer understanding of their own positioning, establish a down-to-earth, hard-working labor cognition, and promote the excellent labor of the Chinese nation Tradition. College students are in an important stage of physical and mental development, their psychology is transitioning from instability to stability, their emotions are easily affected, their self-control ability is insufficient, and emotion and mentality adjustment is very necessary.

In recent years, psychological problems have led to frequent incidents of extreme behavior among college students. Colleges and universities must strengthen the adjustment of college students' healthy mentality, especially to actively guide those students who are in trouble, help them overcome negative emotions, face difficulties and setbacks optimistically, and achieve a brilliant life. Ideological and political teaching workers do not fully understand the Marxist labor concept and Xi Jinping's labor education exposition, and do not have a clear understanding of the complexity, creativity, and secrecy of labor in the new era.

2. THE PROPOSED METHODOLOGY

2.1 The development goals of labor education integration ideological and political courses

As a result, the understanding of labor education is narrowed and low-level. Some colleges and universities simply classify labor education as physical labor and equate the school-running characteristics of vocational education, which emphasizes practical operations, strong skills, and employment opportunities, with labor education, replacing the cultivation of labor literacy with mechanical and repetitive physical labor, resulting in "labor" Education" division. The integration of labor education into curriculum ideology and politics is based on strengthening the cognition of labor education, aiming at the phenomenon of formalization and generalization of labor education in colleges and universities, combining the previous experience of labor education,

returning to the standard of labor education, and unifying labor education and other education as the integration not only highlights the connotation of the combination of universal labor and universal education, but also promotes the in-depth development of the combination of universal labor and universal education. Generally, colleges and universities lack labor education-related content in their talent training programs and have not incorporated labor education into the entire process of talent training.

Most colleges and universities lack compulsory courses and elective courses for labor education in curriculum setting. Even if some colleges and universities set up labor education-related courses, they lack overall planning and practicality in the design of course content, and do not integrate labor spirit, labor safety and the design of labor regulations and other aspects is integrated into students' professional education, innovation and entrepreneurship education, and Marxist labor education and ideological and political education are also lack of integration. The fourth chapter of the Ideological and moral cultivation and legal basics textbook "practice the core socialist values" mentioned that as the spiritual core of the Chinese spirit and Chinese values, the core socialist values are also the common value norms and value pursuits of all Chinese sons and daughters. Labor education for college students is to cultivate students' values of respecting and loving labor, stimulate young people's enthusiasm for labor, and enhance their initiative and creativity in the labor process.

College students in the new era can only actively participate in the construction of socialist cause if they establish a correct concept of labor. From the perspective of big ideology and politics, the construction of a "one body, two wings and five dimensions" higher vocational ideological and political labor education practice system is crucial to improving the quality of labor education. "One body" is the ideological and political teaching community; "two wings" is the education orientation of vocational education, school, and enterprise two-way collaboration; "five dimensions" is the multi-dimensional labor integrating party and group activities, enterprise practice, community activities, social practice, and network ideological and political carrier of practice. School party organizations such as the "green horse class", the youth league committee, the student union, and the preparatory company for college students have given full play to their pioneering leadership and strengthened the labor value orientation of Marxism through red practical activities such as "re-walking the Anti-Union Road" and "students giving ideological and political courses".

2.2 Research on the strategy of integrating labor education into ideological and political teaching in higher vocational colleges.

Cognitive goal belongs to the goal of knowledge level, which has the characteristics of objectivity, reality, and explicitness. Presenting knowledge and realizing the connection between knowledge and cognition are the proper meanings of cognitive goals. Compared with general labor education, the biggest advantage of labor education integrated into curriculum ideology and politics is the combination of labor knowledge and cognitive labor process. By designing course content and using appropriate cases, educators can induce college students to start a corresponding cognitive process around labor knowledge, which is a necessary supplement to the knowledge presented in general labor education classrooms. The realization of cognitive goals is an instrumental requirement for the integration of labor education into curriculum ideological and political goals and lays the foundation for the realization of other goals. Colleges and universities should pay more attention to labor education, integrate labor education in the new era into ideological and political classrooms, and create a good atmosphere for labor education through the main teaching position.

In the training plan of ideological and political courses, colleges and universities should clarify the teaching objectives, teaching content, teaching hours and assessment methods of labor education, take advantage of the classroom's ability to focus on teaching, and adopt methods such as case teaching, situational experience, and practical training. Students carry out labor education and guidance, strengthen the education of Marxist labor concept and socialist labor education for students, so that students can gradually master the knowledge of labor science, ideologically identify with labor theory, and labor spirit, and deepen their understanding of the value of labor. The characteristics and goals of personnel training in colleges and universities also determine that the content of labor education in colleges and universities is very different from that in primary and secondary schools. We should focus on employment and entrepreneurship and strive to cultivate more innovative talents through labor education to enhance employment and entrepreneurial capabilities. This is not only the task of the times for colleges and universities to educate people through labor, but also the new demand for emerging technologies and social services that have undergone tremendous changes in today's economy and industry. Labor education can improve the practical ability of college students and realize their all-round development.

"School, enterprise, family, society" ideological and political teaching subjects collaborate to compile the labor practice manual of ideological and political courses, provide systematic and precise labor practice guidance and training for students, and formulate a catalog of vocational education labor practice topics based on the ideological and political curriculum system and goals. On the one hand, it drives students to explore social frontier issues about labor in corporate practice, and strengthens their labor concepts and thinking construction while tempering labor skills; on the other hand, it introduces corporate culture into the campus, such as incorporating 5S management culture into student dormitory management. Incorporate team management into student class autonomy, integrate labor education into life, and cultivate students' good labor habits.

On the one hand, the overall design of teaching is the foundation of the collaborative education mechanism. The focus of integrating labor education into the overall design of curriculum ideological and political teaching is to form an effective overall education field and educating community. In the dimension of the curriculum system, a curriculum structure system consisting of labor education courses, ideological and political theory courses, professional theory courses, experimental practice courses and innovation and entrepreneurship education courses is established to build an overall education field. Colleges and universities must adhere to the combination of theoretical education and practical training and have specific guidance plans and implementation measures for social practice labor education.

Use traditional holidays and winter and summer vacations to arrange collective labor, go to the society, and go to the grassroots. You can use some classic social practice projects to carry out service labor, organically combine labor

education with social life, and educate and guide students to enrich labor experience in personal participation and improve education. Effectiveness, strengthen the dedication of students, and establish a sense of family and country. Labor education will eventually return to practice. The fundamental purpose of integrating labor education with ideological and political courses is to internalize Marxist theoretical knowledge into "morality" and externalize it into "action" through labor. In carrying out labor practice, we should pay attention to the actual life of students, encourage students to independently complete small and trivial things in life, and hone their will and character in specific practical activities, so that they can truly understand that labor is by their side, and labor creates a better life.

3. CONCLUSION

At present, the labor education of college students in various colleges and universities is in its infancy. It is far from enough to rely solely on education, mechanism, and social environment to improve students' labor skills while improving their ideological and moral qualities. The construction of the integration system of ideological and political teaching has historical, realistic, and long-term value for vocational colleges to build technical and skill highlands under the background of "double high" and to cultivate newcomers who are worthy of the great task of national rejuvenation.

4. ACKNOWLEDGEMENT

2021 Ideological and Political Education Project in Colleges a nd Universities in Guangdong Province: Research on the Cons truction of Labor Education Practice System in Colleges and Universities (Project Number: 2021GXSZ186)

The 2022 annual project of the "14th Five-Year Plan" of Shenzhen Education Science: "Golden Class" of labor education in vocational colleges (project number: Cgpy 22026).

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 79 – 82, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1023

Research on Intelligent Information Model of Evaluating Program for Oral English Teaching Using Artificial Intelligence Technology

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Abstract:In order to evaluate the quality of college English teachers' oral classroom teaching, this article proposes a method of using artificial intelligence technology to evaluate the quality of oral English classroom teaching, establishes a teaching quality evaluation model based on SOFM neural network, and proposes two types based on deep neural networks. A more noise-robust scoring algorithm for acoustic models. "Listening" is an important way for learners to acquire information, and the process also includes refining and reprocessing the information when acquiring information. "Speaking" is a direct way of information feedback, and the process includes the organization and reconstruction of information. (Goodness of Pronunciation), and the performance is improved by 7.6%.

Keywords: Intelligent Information, Evaluating Program, Oral English Teaching, Artificial Intelligence

1. INTRODUCTION

College English Education in a narrow sense refers to school education. The survey of this thesis is mainly based on questionnaires. This research is carried out by means of questionnaires to students after the research, which makes the evaluation system different [2] from the general classroom teaching evaluation system [3]. The questionnaires are designed around two aspects of oral English learning interest and oral English learning strategies [6]. The questionnaire is closed-ended. Ubiquitous learning has the potential to revolutionize education, removing many of the limitations of traditional learning. [7] feature mapping (SOFM) neural network. Based on the MATLAB R2013a platform, a SOFM network evaluation [8] model is programmed to test the classification effect of the SOFM [9] model under different training steps.

The simulation results show that the classification accuracy [10] of the oral English classroom teaching quality evaluation model based on the SOFM [11] neural network is high. In the actual large-scale oral examination [12] environment, compared with the controllable conditions [13] in the laboratory, the audio in the examination room is due [14] to the diversity of equipment and multiple people. At the same time speaking, the actual conditions of the examination [15] room and other factors inevitably bring unstable noise interference. In addition, the current mainstream [16] foreign language scoring technology is to establish an acoustic model (Acousticmodel) used to describe the probability [17] distribution of correct pronunciation through the speech data of large-scale native speakers, and perform voice recognition on the recordings of non-native speakers [18] and calculate the representative pronunciation fluency [19]. The posterior probability of, and other index characteristics related to pronunciation and language ability are used [20] as the basic basis for the machine to score and diagnose the examinee's audio [21]. Artificial intelligence, the English abbreviation AI (Articial Intelligence), is the theory, method and technology of studying [22] how to use computers to simulate human intelligent behavior. In recent years, the rapid development of AI technology has caused an uproar in various fields of social life [23], and of course it has also brought about considerable changes in the education sector [24].

The combination of AI technology and education is of great benefit to the transformation of traditional education, the exploration of new educational models, and the improvement and improvement of teaching quality and evaluation methods. Education integrated with AI technology pays more and more attention to the essence of education, centering on the learner, so as to realize personalized learning. At the same time, the close development of AI and the education sector provides a broader technical support and learning platform for English learning, thereby promoting the reform of English education and evaluation. The ultimate goal of language learning is to output, and spoken language is the most commonly used method. The combination of AI technology and oral education evaluation provides a personalized platform for oral education and a more objective way for oral evaluation.

In addition, combining adaptive learning with ubiquitous computing and ubiquitous learning brings educational or compliance activities. This is a one-sided understanding of oral evaluation. This not only simplifies the teaching process, but also ignores the primary status of primary school students in the evaluation. Teachers should use evaluation to promote students' autonomous learning and improve students' ability to use language comprehensively. At present, domestic and foreign scholars and research institutions have proposed a variety of network information security monitoring systems to perform offline and online monitoring of the Internet and network assets such as hosts, borders, applications, and terminals.

Although these monitoring methods can effectively improve the ability of the network to actively monitor and detect risks, there are still shortcomings and gaps: (1) Internet outlets and extranet sites are not monitored, and the breadth and depth of security monitoring need to be strengthened; (2) Existing monitoring methods show a situation of "island" distribution, and the ability of joint analysis is weak; (3) There are problems of weak data relevance, un-convergence and large

amount of data in centralized monitoring, and the ability to respond to and deal with network information security incidents still relatively weak.

2. THE PROPOSED METHODOLOGY

2.1 The Application of Artificial Intelligence Technology In Spoken English

Based on the basic principles of deep learning speech recognition and oral evaluation, this article introduces the latest research on the automatic evaluation technology of middle school students' oral English test. Experiments were carried out on the large-scale unified examination audio data set actually collected by the examination system of the cooperative enterprise, and the effectiveness of the improved algorithm was verified. It is the likelihood (likelihood) probability, which can be calculated from the establishment of an It is a huge innovation and allows personalized learning according to the needs of students. The reliability coefficient of the student questionnaire (pre-test) in this study is .987, indicating that the overall reliability of the questionnaire is high, and the reliability coefficients of each dimension are 20.0, indicating that each obtained through a statistical language model (Language model).

One of the most important links in a complete teaching process is teaching evaluation. In traditional college oral English evaluation, the subject of evaluation is the teacher. But for most teachers, the teaching evaluation of spoken English is often more difficult than the evaluation of written English. The evaluation itself is mainly determined by the results of the final exam. This is called summative evaluation. For students, summative evaluation does not fully and realistically reflect the students' oral ability, and it is even more unfavorable to guide students to develop their enthusiasm for oral learning. The use of "human-computer interaction" speech recognition system for oral English assessment can overcome many shortcomings in oral assessment, and make primary school oral English assessment more targeted, objective, fair and scientific.

The fully automated evaluation system incorporates the internationally leading voice intelligent evaluation system developed by iFlytek. The system can automatically complete the scoring of spoken language recordings. The scoring data has high stability and high credibility, and at the same time reduces the scoring of the teachers. Workload, reduce test costs, and solve the current problems of large classes, insufficient teachers, and difficulty in evaluating primary school spoken English. Language test evaluation has a close relationship with language teaching. Spoken language assessment is based on the principles of stimulating interest and encouraging success. While completing the test of students' language learning results and language ability, it also provides feedback on language teaching and learning. Therefore, oral assessment can greatly increase students' English reading, situational dialogue and other language practice opportunities in the classroom, and fundamentally eliminate the phenomenon of paper and pen test training in English classrooms.

2.2 The Oral English Teaching Evaluation Program

This article takes the teaching quality of 18 English The dimensions are ideal: the reliability coefficient of the student questionnaire (post-test) is .986, indicating that the overall reliability of the questionnaire is high, and the reliability coefficients of each dimension are > 0.80. Since the experimental subjects are students in the third grade of high school, they are under great academic pressure, and consulted experts in related fields and school supervisors. The final evaluation index established covers four parts: the academic department, students, peers, and supervisors. Among them, the first-level indicator evaluated by the educational administration department is teacher ethics, and there are 3 second-level indicators; the first-level indicators for student evaluation include teaching content, teaching methods, teaching attitudes and teaching effects, and there are 8 second-level indicators; peer-evaluated The first-level indicators include scientific research ability and dedication to work, and there are 3 second-level indicators; the first-level indicators for supervision and evaluation include professional quality, teaching design and instrumentation, and there are 6 second-level indicators.

The application of deep learning in speech recognition has not changed the basic architecture of speech Therefore, the author selects his classroom teaching materials as the materials for oral language teaching (conducive to his review of the knowledge of the teaching materials), and conducts in-depth exploration of the oral language resources in the teaching materials output by the deep neural network by the prior probability obtained from the training data To approximate the likelihood of each state generated by the HMM, and replace the traditional likelihood obtained through the Gaussian mixture model (Gaussian mixture model, GMM), so as to obtain a significant improvement in performance. In most research literature, the traditional GMM model is called GMM-HMM, and the hybrid model based on deep learning is called DNN-HMM. This paper also uses this term. In order to facilitate the display of network-wide attack monitoring indicators, the system divides the severity of the attack into 5 different levels, and designs and implements the attack monitoring public table, the attack monitoring TOP table, the attack monitoring public trend table, and the detailed table of virus and Trojan horses. , Virus Trojan classification table, website attack type analysis table, asset IP table, asset basic information table and organization table and other database tables. The attack monitoring function can not only display the time trend of the day's attack events, the detailed classification and specific information of virus and Trojan horses, but also record the detailed information and IP addresses of network assets.

2.3 The Intelligent Information Model for the Evaluation of Oral English Teaching

Use the established SOFM network evaluation model to evaluate the teaching quality of 18 teachers engaged in English teaching in a university. The specific p Combining meme theory with spoken language teaching. Spoken language is a very important part of English teaching. Junior high school is a critical period for language learning and lays the foundation for future learning. Train the built model. After the training, the model will reflect the evaluation result in an intuitive form of the position of the winning neuron in the competition layer; test the generalization ability of the evaluation model, if the winning neuron is located in the competition layer The meta position is the same as the position of a certain standard training sample, which means that the evaluation results of the test sample and the corresponding standard training sample belong to the same category.

Among them, it is the posterior probability of a speech segment O that can be recognized as phoneme p. Q is a collection of all phonemes of a certain language (such as English). The numerator part of formula (3) is the phoneme-level likelihood, which can be obtained by the forced alignment of the GMM-HMM acoustic model for a given text, and the denominator part can be obtained through phone loop recognition by phone loop. Obtain the likelihood probability of q with the highest likelihood among all phonemes. Secondly, computer oral assessment reduces the workload of teachers' oral assessment and reduces the cost of testing. A computer room with 40 computers, each test 20 students, more than 3 hours can complete a 6-8 classes, a total of more than 300 students' oral assessment, which solves the problem of the school's current large class size and insufficient teaching staff. Thoroughly develop the problem of comprehensive and scientific primary school oral English evaluation.

Thirdly, through daily oral online platform learning and evaluation exercises, students can strengthen individualized learning based on shortcomings in oral learning. The network platform can increase students' interest and enthusiasm for learning, and can enhance their sense of security in the computer oral test environment, allowing students to perform more relaxed on the test site, and their oral output is more natural.

3. CONCLUSIONS

This paper proposes a method to evaluate the quality of college English teachers' classroom teaching using SOFM neural network, and establishes an evaluation model of teacher's classroom teaching quality. The specific response relationship between neurons in the competition layer and neurons in the input layer is used to classify the results of the model. Output in the form of visual graphics to test the generalization ability of the model. The simulation results show that the SOFM evaluation model has a classification accuracy of 100% for training samples and test samples, indicating that the model has strong generalization ability and verifying the effectiveness of the model.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 83 – 86, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1024

Association Modeling of The Realization of Red Tourism Resource Sharing Sites and University Education in The Mobile Environment

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Abstract:Red tourism is a kind of tourism activity to learn revolutionary historical knowledge, accept revolutionary traditional education and invigorate spirit, relax body and mind, and increase experience. It is an effective way to carry out ideological and political education for college students. The richness and innovation of the method. ! An important problem of data application in the mobile environment is the control of the data synchronization process! The data synchronization process refers to the realization of data consistency between the mobile client and the server. The introduction of ideological and political education for college students is conducive to enhancing the connotation of red culture.

Keywords: Realization of red tourism, university education, mobile environment

1. INTRODUCTION

With the vigorous development of science and technology, the increasing awareness of global integration, and the closer exchanges and cooperation between other countries and my country , more and more young people, especially college students , are gradually blindly pursuing the so-called Western culture [1]. Some college students do not even have a good understanding of the advantages of my country's socialist system , resulting in weak belief in communism [2]. Red tourism refers to taking revolutionary memorial sites, monuments and the revolutionary spirit they carry as attractions, organizing and receiving tourists to visit and tour, learn revolutionary historical knowledge [3], receive revolutionary traditional education and boost their spirits. The 18th National Congress of the Communist Party of China proposed to carry out in-depth education and practice activities of the party's mass line [4].

The Party Central Committee established a contact point for educational practice activities. General Secretary Xibaipo visited red scenic spots [5] such as Xibaip, which provided instructive inspiration for the form of the party's mass line education. The revolutionary history [6], revolutionary spirit, revolutionary tradition and morality carried by the red tourist monuments and landmarks are the precious resources for the education of the socialist core values of college students. In recent years, my country's red tourism has been [7] elevated to a national level .

As a new type of themed tourism activity, it has entered a stage of common concern and orderly development driven by national policy guidance and market demand. The Urgency of the Times to Promote Red [8] Culture Red culture has a very close relationship with the sinicization of Marxism [9] . Red culture is the basic premise, substantive content, historical starting point and logical starting point of the sinicization of Marxism, and it is the further sinicization of Marxism in the new era. strong spiritual power and spiritual support. General Secretary Xi Jinping warned us: "The construction of revolutionary traditions and patriotic education bases must not pursue high-level education, make them very foreign, modern, and spend a lot of money [10], then it is not a revolutionary tradition, and the revolutionary tradition will change its taste. It is possible to pass traditional education [11].

Drive tourism, but cannot lose the background of red tourism. With the development of our country's economy [12], some changes have taken place in the thinking of college students in our country, and the morality and values tend to be more diversified; and the way to obtain information is also more diverse ; Psychological obstacles are becoming more and more serious ; ideological and political education positions are gradually missing, etc. To investigate the reasons [13], the main reason is that traditional knowledge transmission methods are still used on campus. College students are the country's precious human resources, the future of the motherland [14], and the hope of the nation. To grow into qualified builders and reliable successors of the cause of socialism with Chinese characteristics [15], it is not only necessary to improve their scientific and cultural literacy. Research on topics related to red tourism education has also been developed [16], and various research results are published in the form of papers, journals, newspapers, etc. Presented, the main contents include the analysis of the value and function of red tourism education in colleges and universities [17], the problems existing in red tourism education for college students. Educational value [18]. Red tourism is a new carrier and new platform for the education of socialist core values, and the red spirit nurtured in red tourism culture. It is an important force for transforming the subjective world and the objective world [19], and the foundation of world outlook, outlook on life and values. The so-called red tourism refers to the memorial sites and landmarks [20] formed by the great achievements of the Chinese [21] Communist Party leading the people during the revolution and war [22]. Carrier, with its revolutionary history [23], revolutionary deeds and revolutionary spirit. A mobile computing environment can be regarded as a dynamic distributed computing environment [24]. We should make good use of classroom teaching as the main channel, so that ideological and political theory courses can be strengthened in the process of improvement, enhance the affinity and

pertinence of ideological and political education, and meet the needs and expectations of college students' growth and development. Teachers of ideological and political theory courses should have a deep understanding of the spirit of Jinggangshan on the basis of, to find the point of convergence between the ideological and political theory course and the Jinggangshan spirit [25].

2. THE PROPOSED METHODOLOGY

2.1 The Realization of Red Tourism

It has mobile, frequent network disconnections, diverse network conditions, asymmetric network communication, and power supply of mobile computing components. It has limited capacity, low reliability, and high flexibility. Moral belief is a moral education of ideals [26], beliefs and beliefs, which can promote students to understand the ultimate value of morality, and realize the transformation from "knowledge" to "trust" and from heteronomy to law. The improvement and transformation of self-discipline. Zhangjiajie City is located in the northwest of Hunan Province.

It has a wide variety of red tourism resources, rich in content and distinctive features. It has the characteristics of great popularity, good combination, and concentrated distribution. The main line of the glorious historical relics of the Red Army, and the theme of "Long March" is deeply excavated, refined, integrated and developed. Zhangjiajie has the natural advantage of building a circle of red tourist attractions in western Hunan. The integration of ideological and political education with the red tourism culture of Jinggangshan can provide college students with more complete The ideological and political education system, better cultivate and improve the comprehensive quality of college students, and spread a spirit of "not afraid of enduring hardships" for college students, so that they can still stick to their original intentions and not be influenced by social impetuousness under the influence of excellent revolutionary culture.

Disrupting the original heart and having the courage to pursue one's own ideals. Red tourism provides the possibility for the innovation of ideological and political education methods through the ingenious combination of red cultural resources and tourism. The process of red tourism is a process of practical learning, "You Middle School, "Learning in the middle reaches", guide students to pay attention to reality. The analysis of the purpose of red tourism education for college students shows that the red tourism education of college students The main purpose is to cherish the memory of revolutionaries and receive revolutionary education, and the second is to fulfill the needs of social practice. Integrate red resources into the education and teaching of ideological and political theory courses in colleges and universities.

2.2 The University Education

Red resources are the precious wealth of our Chinese nation. We should strengthen the construction of ideological and political theory teachers, and take red roads, red resources, and red culture as part of the curriculum construction. The tour experience of college students in red tourism is not only a simple travel experience, but the process of tourism is also a process of Marxist concept of happiness education. What cannot be reflected in the form of tourism. Among the various forms of language, the spoken language is the most vivid, the most concise and expressive, and the most lively and lively. In the face-to-face transmission of oral language, people can obtain mutual communication reactions. There is no privacy in the established communication time and space, and each other has a huge life space and behavior expectations.

he red tourism resources under the jurisdiction of Zhangjiajie are of various types and large volumes. At present, there are a series of revolutionary memorial sites, such as the ruins of the Revolutionary Committee, the ruins of the revolutionary government, the ruins of the Red Army Military Region, Military Academy, Party School, the Red Army Hospital, and the ruins of the arsenal. The number of sites is large, the space span is large, and the viewing time is long. The timestamp structure contains two major parts: structure header and structure where the structure header includes % identification number request initial time synchronization end time counter request identification and synchronization status' structure including synchronization data set and synchronization instruction set. The traditional methods of ideological and political education are mostly straightforward preaching, which belongs to explicit education. Red tourism is a way of ideological and political education for college students. Tourists are taught under the leadership of non-ideological and political education consciousness. In a survey on the evaluation of college students' red tourism, it was found that about 51.5% of the college students felt that the spirit of the red revolution had "little relationship" or even "no relationship at all" with their lives.

Red tourism product is a kind of cultural tourism product, culture is the essence of product vitality, red tourism resources have profound historical connotation and humanistic value. The cultural connotation of red tourism resources is the primary factor that determines the taste, grade and vitality of tourism products in the development of red tourism resources.

2.3 The Tourism Resource Sharing Sites and University Education in The Mobile Environment

Play the role of party organizations and student associations. Give full play to the important role of party organizations and student associations in the education of college students' socialist core values, such as using monthly group day activities to carry out volunteer service activities in red tourist attractions in each group branch. At present, my country's red tourism has always been closely related to revolutionary traditional education and has a strong political color. The Party Central Committee has issued many policy documents to strongly support and encourage the further development of red tourism in my country, so that red tourism develops rapidly.

Red tourism resources contain splendid red culture. In order to truly implement the ideological and political education of college students and realize the educational goals and objectives, we must keep pace with the times, seek and accumulate educational and inspiring materials, and enrich the carriers of ideological and political education for college students.

Zhangjiajie's red tourism resources have a long history and rich heritage, covering the revolutionary struggle history of "two kitchen knives make a revolution", "three thousand red sisters keep their original intentions", "how much ambition to sacrifice. Deal with it accordingly! After the synchronization is successful, modify the synchronization status and synchronization end time! And feed back to the corresponding mobile client. 'If the timeout sets the timeout value! The transmission efficiency of the mobile network needs to be fully considered. The education of college students should

always adhere to "people-oriented" Students are the main body of the school. Without the source of students, it is impossible to talk about advanced educational methods. In the process of integrating Jinggangshan red tourism culture into ideological and political education, colleges and universities should take college students as the main body, and carry out ideological and political activities around college students. Education and daily management, and fully consider the feelings of college students. Culture is the charm of a tourist destination. If any tourist destination wants to form a strong market competitiveness.

3. CONCLUSIONS

As the main body of education, colleges and universities can take the following countermeasures: implement the "people-oriented" educational policy, establish a sound ideological and political education system, innovate ideological and political education activities for college students, carry out ideological and political education in conjunction with family and society, and pay full attention to ideological and political education classroom content. Red tourism achieves the purpose of educating college students on the concept of happiness, and the two can promote each other and develop together under a certain interaction. Fully develop the moral education function of "red culture", and provide spiritual support for cultivating talents and building a harmonious society. In order to truly play the ideological and political education function of Zhangjiajie red tourism.

4. ACKNOWLEDGEMENT

Fund project: 2019 National Social Science Fund Project "Research on the System Guarantee of Socialist Core Values" (19BKS166).

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 87 – 89, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1025

Research on the Collaborative Education Strategy of Ideological and Political Education and Labor Education in Colleges and Universities

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Abstract: College education in the new era is increasingly emphasizing labor education, so higher vocational colleges need to combine the original teaching objectives with the elements of labor education. On this basis, in the process of improving students' labor values and outlook on life, higher vocational colleges should add an innovative model of ideological and political education, and formulate targeted curriculum optimization strategies based on the actual situation of students' daily labor and study life. , Based on this, this article will analyze the problems existing in the integration of ideological and political education and labor education in colleges and universities, and expound effective teaching strategies for teaching practice. Thus, extending the political teaching classroom in colleges and universities and broadening the path of labor education.

Keywords: Collaborative Education Strategy; Ideological and Political Education; Labor Education

1. INTRODUCTION

After the promulgation of the "Opinions on Comprehensively Strengthening Labor Education in Colleges, Middle Schools and Primary Schools in the New Era", labor education has ushered in a new opportunity for development. The higher vocational stage is an important node for the formation of correct values. Therefore, labor education is the primary choice introduced in the ideological and political education system, so that students can realize the importance of labor, establish a correct awareness, and forge a firm and persistent labor character. Promote the improvement of students' comprehensive quality, enrich the practice of ideological and political education, and further implement the educational goal of building morality and cultivating people.

Labor education is a mechanism gradually formed in the development of the times, but the assessment of students' labor ability in teaching is not directly included in the teaching assessment. In addition, college students must face the pressure of professional courses and job hunting, so labor courses are infiltrated the model in ideological and political teaching is not very ideal. There are also some colleges and universities that do not realize the importance of labor education and have not incorporated labor education into daily education. If things go on like this, the integration of labor education into learning has not been paid attention to, and the improvement of students' labor literacy is not ideal. First, the systemic feature, that is, collaborative education is composed of two or more subjects who make full use of their own functions and structures and goals to coordinate and complete the entire education process.

In other words, each student has great differences, so in the process of designing the collaborative education model, it is necessary to consider the differences in students' cognitive levels. The main role of ideological and political courses is to use Marxist philosophy, modern Chinese History, traditional Chinese culture, law, and the moral values of modern society to shape students' outlook on life and values, so that students can establish correct life goals through ideological and political learning. Some teachers are accustomed to theoretical analysis during the teaching process and extract the core ideas from the textbooks as the main content in the classroom.

However, both philosophical and legal views are relatively abstract, and students have certain difficulties in understanding them, let alone resonating with them. Students in higher vocational colleges are in the "joint-booting period" of their lives. Their values are still in the stage of perfection. As the backbone of social development, their values will affect the value trend of the entire era. For them, the socialist core values can correctly lead them to grow and succeed. General Secretary Xi Jinping pointed out that the spirit of model workers mainly includes six aspects, namely hard work, being willing to be ordinary, daring to sacrifice, bravely fighting for the first place, being dedicated to work, and loving one's job, and being willing to innovate. Concrete personified and realistic personality characteristics play an important role in promoting the enrichment of people's spiritual culture.

In the ideological and political courses in colleges and universities, if teachers only rely on fixed textbooks for guidance, there will inevitably be a certain lag. Although the concept of teaching contains a wealth of knowledge, teachers also need to fully tap the resources in teaching in the process of classroom teaching, and skillfully connect the teaching objectives of ideological and political courses with labor education, to help students accurately orientate the direction of teaching, improve teaching elements in combination with teaching content, and improve teaching efficiency by further requiring students to practice and think. Campus culture also has a crucial influence on college students' ideological values and innovation and entrepreneurship awareness. To improve the effectiveness of collaborative education, a good campus cultural environment should be created for students to promote the deepening development of collaborative education.

International Journal of Science and Engineering Applications
Volume 12-Issue 06, 87 – 89, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1025

2. THE PROPOSED METHODOLOGY

2.1 Problems existing in the penetration of labor education by ideological and political courses in colleges and universities.

We can start from the two dimensions of material and cultural environment and spiritual and cultural environment. First, the level of material and cultural environment mainly includes the existing campus environment, landscape, teaching facilities, architectural style, interior design, etc. of colleges and universities. Combining ideological and political courses with labor education helps shape students' labor values. How students view the outside world, how to view the relationship between themselves and society, how to judge the value of things, these are the problems that ideological and political education focuses on solving. As the best way for human beings to practice with society, others and nature, labor deeply affects students' values.

At the same time, the creation of value and wealth by labor is the cornerstone of the value system. Only through the theoretical explanation of ideological and political courses cannot let students form a deep understanding of labor values. Only with the help of real labor processes can students establish correct labor values. values. The way of labor education should emphasize the combination of inside and outside, not only through the setting of labor professional courses to impart knowledge, but also to introduce the content of labor education in professional courses, and to use various extracurricular activities to enrich labor practice, so as to continuously build campus. The internal labor atmosphere allows students to participate in labor practice more actively and consciously, and truly implement labor education in the process of talent training.

In terms of educational methods and ideological cooperation, there is a relatively good fit between labor education and ideological and political education. The application of the two mainly focuses on the following areas: first, widely spread the theoretical knowledge of Marxism. The outline of labor education guidance (trial) and the outline of guidance on ideological and political construction of higher school curriculum have made clear requirements, so that students can more clearly understand the relationship between Marxist labor and socialist labor, and then help students shape a scientific outlook on employment and entrepreneurship view. In the process of teachers constantly absorbing advanced teaching concepts in combination with the actual situation, more high-quality and advanced ideas will be integrated into the practice of ideological and political labor education, and teachers will also carry out practical teaching based on active research on advanced teaching concepts. Innovation and development, and then achieve good teaching results.

In the active research and exploration of teachers, it will be more conducive for teachers to find out the direction of progress in combination with the actual situation of teaching and the needs of students' growth, and then promote the orderly development of labor education activities under the guidance of clear ideas. In the process of organizing collaborative education practice activities, we should start to create a diversified collaborative education practice model from the three dimensions of theoretical courses, on-campus training, and off-campus practice. Under the background of this collaborative education practice education model, it is possible to systematically sort out the correlation between theoretical teaching and practical teaching, realize a clear division of labor for the educational subject, and better carry out collaborative education planning and management. In the process of collaborative education of theoretical courses, teachers of professional courses in the school should give in-depth explanations of theoretical concepts, consolidate students' theoretical foundation, and prepare students for participating in school training and off-campus practice.

2.2 The practical path of collaborative education of ideological and political courses and labor education in colleges and universities

From the perspective of the integration of labor education and ideological and political education, the concept of labor education also needs to be based on the development of ideological and political education to achieve simultaneous improvement and improvement, integrate the concept of labor education, and coordinate the development of corresponding educational resources. It means that when the specific labor education is integrated with the practice of ideological and political education, teachers can start from the perspective of theoretical education and strengthen the full utilization of various resource conditions. For example, in the link of theoretical knowledge teaching, teachers can use network platforms and information technology to Support the effective development of related education work. Public basic courses should pay attention to the combination of labor education and curriculum ideology and politics, so that it can run through it and improve the comprehensiveness of educating people. The most significant value of public basic courses is educating people, and the ideological and political elements and labor education elements are particularly rich in public basic courses.

In the teaching of public basic courses, it is not only necessary to introduce Marxist labor relations and guide students to form a correct view of labor, but also to take effective measures to help them develop excellent labor habits according to the particularities of study, life, and practice. Mobilize the enthusiasm of students to work. It is necessary to present the research results in the class first, and then the teacher analyzes the students' statements, finds out the places worthy of in-depth study and affirms them, finds out the places that need to be optimized, and draws a warning together with other students. Under the active guidance of teachers, labor education can be infiltrated in an all-round and diversified way, and the effect of labor education can be deepened. Whether it is ideological and political education or dual-creation education, colleges and universities are required to have high-quality and high-level teachers. To better achieve the goal of collaborative education, ideological and political teachers must not only master solid theories, but also continuously promote their own ability development and enhance the fun of classroom teaching. Dual-creation education requires teachers to have strong initiative and creativity, be able to stimulate students' enthusiasm for innovation and entrepreneurship in teaching practice, and guide students to establish correct ideas and ideals.

Social public welfare activities do not aim to obtain labor remuneration, but at the same time create real value. Students can think about the value of labor and personal life value when participating in such activities. Just like during the epidemic prevention and control period, many students embarked on the ranks of delivering epidemic prevention materials to classmates and teachers for free. Although they did not obtain substantial benefits, their labor results were widely recognized. This is the power of values. The

combination of the two can further exert its value advantages, improve the quality of students' labor concept training, and realize the promotion of labor spirit. At the same time, it can also help students develop excellent labor habits, strengthen their labor ability, and achieve precise teaching. The combination of labor education and ideological and political practice teaching can start from the following points.

3. CONCLUSION

At this stage, higher vocational education bears extremely important responsibilities, and shoulders the important task of cultivating and exporting high-quality professional talents with strong professional ability, high moral character, and healthy body and mind to industrial production and social services. It has a very high relationship with labor education. With the continuous improvement of the emphasis on labor education and the objective requirements of cultivating people through morality, vocational colleges need to keep up with the trend of the times, and participate in classroom activities with students, optimize the content of labor education, so that students have the foundation While improving knowledge and skills, enhance labor literacy, so as to export more high-quality talents with both ability and political integrity for the society.

4. ACKNOWLEDGEMENT

Fund project: 2019 National Social Science Fund Project "Research on the System Guarantee of Socialist Core Values" (19BKS166).

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 90 – 92, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1026

Sports Intervention Strategies for Young Children's Poor Posture Based on Video Surveillance and Torso Recognition Algorithm

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Abstract:This article proposes a movement intervention strategy for young children's bad posture based on video surveillance and torso recognition algorithms, which solves the situation of similar but not identical actions of different people in monitoring, effectively solves the problem of non-fixed speed behavior classification, and can better Perform behavioral classification tasks. Before children's gymnastics intervention, the control group (10.12 ± 2.97) and the experimental group (8.97 ± 2.72) had no significant difference in gross movement scores (F=0.933, P>0.05) ; After the intervention of children's gymnastics exercise, the control group (12.69 ± 3.08) and the experimental group (15.32 ± 3.11) have higher gross movement scores than before the intervention (t values are -2.346, -2, respectively) 021, P values are all <0.05).

Keywords: Sports Intervention Strategies, Young Children, Poor Posture, Video Surveillance

1. INTRODUCTION

Symptoms of ADHD: Inattentive or Attention-deficit; too much activity (hyperactive or hyperkinetic); impulsive. Based on the advantages of the above three symptoms, ADHD is subdivided into three categories: mainly inattentive, mainly hyperactive impulsive, and combination. Attention deficit hyperactivity disorder (ADHD) often manifests as: 1. Attention disorder [1]. Children show obvious difficulty in concentration and attention, which is not consistent with their age, and the attention [2] duration is short; they often have difficulty maintaining attention in class, doing homework or participating in other school activities, and are easily distracted by external stimuli and influences; Often reluctant to complete tasks that require [3] a long time to concentrate; doing things procrastinating, likes to sluggish, difficult to complete homework on time or assigned tasks assigned by teachers and parents; often carelessly making mistakes in learning or activities, easy to miss and forget about daily activities.

3 to 6-year-old children mainly perform gross movements. The practice of gross movements during this period can not only promote the development of fine movements, but also promote the learning of more complex motor skills, and the development of children's cognition, emotions, and social behaviors. All have important influence. Gallahue et al. [4] clearly pointed out that physical education can improve the cognition [5] of motor skills and enhance physical ability. Children's physical education is an important foundation for the development of physical education [6].

Poor impulse control ability [7]. It is often manifested as doing things without regard to the consequences, acting impulsively, acting with momentary [8] interest; often interrupting others when others are speaking [9], and rushing to answer questions when the teacher asks; unable to wait patiently in line [10]; Yi has disputes or even fights with his peers. 3. Hyperactivity. Children with ADHD often have more small movements and appear very restless. It is difficult for them to sit quietly in the classroom for a long time. They often move around in their seats [11], keep their hands and feet busy, and even leave their seats and run around without authorization. In addition to the most significant representative manifestations above, the main manifestations of ADHD patients may also include the following aspects: behavioral difficulties; abnormal sensory function; conduct problems; social problems and [12] emotional problems. Exercise intervention is recommended as an auxiliary or complementary method to treat ADHD. It is a safe and effective method especially for children. It has a positive impact on children's cognitive behavior, but the exact mechanism is not yet clear. Both exercise intervention and stimulant drugs affect the dopaminergic and noradrenergic systems, and their mechanisms for the treatment of ADHD are similar [13].

Specifically, exercise intervention can promote neurotransmitter (such as dopamine, serotonin, norepinephrine) and neurotrophic factor levels [14]. The increase of dopamine level indirectly affects the children's attention and learning ability, while the increase of norepinephrine level improves the children's performance [15], distraction, arousal regulation and memory ability; brain-derived neurotrophic factor is a normal brain an important element in development is a strong regulator of neurosynaptic [16] transmission and plasticity. Regular physical exercise can promote a significant increase in the content of this factor [17], which is conducive to improving the behavior and cognition of children. Intelligent video Surveillance is poor [18] is a new data processing technology that combines video surveillance and computer vision. Its advantage is that it can process, analyze and understand the sequence images collected by the camera without increasing manual intervention [19]. This technology automatically analyzes and detects the targets in the sequence to achieve target tracking while completing [20] corresponding behavior analysis. When an abnormal situation occurs, the intelligent video surveillance system can not [21] only provide early warning information in a timely manner to ensure a low rate of false alarms and false alarms [22], but also assist relevant personnel in dealing with the abnormal situation in the monitoring scene in real time [23].

The analysis of abnormal behaviors of moving human bodies is based on intelligent video surveillance [24], using computer vision technology, networked and intelligent as the development direction, to analyze and identify human target behaviors in video sequences, so as to deal with abnormal behaviors in time and give alarms in time. For the purpose, the ability of video surveillance is greatly improved, and manpower and material resources are saved in the monitoring work.

2. THE PROPOSED METHODOLOGY

2.1 The Intelligent Video Surveillance

Video is an image that is combined according to a certain coding standard and changes with time. A video image is a continuous and interrelated multi-frame image, also called a dynamic image or a sequence image, and an image usually refers to a static image. According to the principle of human vision persistence, when the continuous image changes more than 24 frames per second (line hoe e) image, the multi-frame image seen by the human eye is continuous and smooth, and it is impossible to distinguish a single frame image. Such related and continuous images are defined as videos.

Under normal circumstances, the image quality will be reduced during the shooting, transmission and conversion of the image sequence. Therefore, there are two ways to improve the degraded image: one is to ignore the cause of the degraded image quality, to highlight the effective information selectively, and to attenuate the invalid information. This method highlights the main characteristics of the target through grayscale transformation, filtering and denoising, and attenuates impurity noise, which can improve the readability of the image, that is, image enhancement technology; the other is to compensate for the cause of image degradation, and compensate for the cause of degradation. Making the image as close to the original image as possible. The key to this method is to improve image quality, that is, image restoration. At present, many researches have been done based on PF tracking, but they mainly focus on the estimation of prior distribution, the calculation of importance weights, and the study of importance functions. The selection of particles is mostly based on a specific range or manual selection. Therefore, automatic tracking of pedestrians in an intelligent monitoring system is difficult to be practical. In addition, the selection of the human tracking area will affect the accuracy and complexity of the tracking algorithm. This section proposes an algorithm to automatically select the coverage ratio of the largest characteristic area to determine the tracking area.

When modeling a target based on color features, a rectangular or elliptical area is usually selected as the tracking area, and a reasonable color model is selected for the target area to determine the characteristics of the moving target. The contour shape of the human body is an irregular shape.

2.2 The Torso Recognition Algorithm

Multi-objective joint point estimation method is used to extract joint points from members of the group behavior. In order to describe the actions of group members completely, 14 joint points are extracted from the group members in the image. These joint points are: head, neck, left shoulder, right shoulder, left time, right shot, left hand, right hand, left body, right marrow, left knee, right knee, left foot, and right foot. Group behavior recognition is different from individual behavior recognition. It not only includes the recognition of individual behaviors, but also involves the correlation and relative effects between group members. These are closely related to form an overall structure. Therefore, feature extraction for group members' behavior is essential. For a sample formed by joints of multiple people, it is similar to a social network formed by nodes and relationships.

In the research field of social networks, individual members or other social things in the network are treated as nodes. In social networks, the relationship between members becomes a connection between nodes.

2.3 The Exercise Intervention Strategy for Young Children’s Poor Posture Based on Trunk Recognition Algorithm

Exercise intervention is mainly divided into aerobic exercise and anaerobic exercise. Aerobic exercises include jogging, cycling, dancing and treadmill exercises, which can increase the heart rate of children and stimulate sweating. Chronic aerobic exercise may help improve children's intelligence, cognitive ability and academic performance. Non-aerobic exercise is also related to the improvement of children's physical and cognitive abilities. Compared with aerobic exercise, the acceptance of anaerobic exercise (sprinting, long jump) is lower, and many children will feel resistance, and there are few studies on the intervention of anaerobic exercise in children with ADHD. Aerobic exercise has an effect on the cognitive function of children with ADHD. Have a higher positive impact. ADHD children’s response inhibition, cognitive control, attention distribution, cognitive flexibility, processing speed and vigilance have been improved after exercise intervention.

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3. CONCLUSIONS

The detection of abnormal behaviors of moving human bodies in intelligent video surveillance saves a lot of manpower and material resources, is real-time and minimizes the false alarm rate and the false alarm rate. The results of this research show that children's gymnastics can effectively promote the development of displacement and material-controlled movements, enhance the ability to perform gross movements, and lay a good foundation for the learning of movement skills and the development of physical qualities such as flexibility, strength, and balance; according to the evaluation results of TGMD-2 , Improve the gymnastics arrangement, apply it to children's gymnastics teaching, and observe the long-term synergistic improvement effect on children's movement development and physical fitness.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 93 – 95, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1027

Intelligent Feedback Analysis of Higher Engineering Training Mode Based on Real-Time Capture and Mining of Network Forum Data

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Abstract: Aiming at the fact that the traditional method ignores the temporal information and correlation contained in the event time series in the process of prediction, a network hotspot event heat prediction model based on the EKSC algorithm is proposed. The framework will distinguish the content information and relationship information of social networks, fetch, and store them in a targeted manner, and form a feedback mechanism between fetching and storing, which supports developers to expand business-related dynamic fetching strategies. The practice teaching mode is constructed from the aspects of the practical teaching link and the evaluation system, and a practical teaching course system of "one main line, two channels and three stages" is proposed, and it is recommended to combine different learning stages and courses to use inquiry learning.

Keywords: Intelligent Feedback Analysis, Higher Engineering Education Teaching, Real-Time Capture, Network Forum Data

1. INTRODUCTION

With the rapid development of the Internet, the Internet has become a distributing center of ideological and cultural information and an amplifier of public opinion, and network public opinion has become a real-time barometer that reflects the situation of social public opinion [1]. The formation and development process of online forum topics is the process of dissemination from a few people to a large number of people under the action of interactivity, that is, advanced users (opinion leaders) take the lead → intermediate users' feedback → ordinary users click and browse [2]. Senior users, as representatives of the main body of the forum, have a large number of posts. For SNS websites of the type "Sina Weibo", each "Weibo" is limited to 140 characters, allowing users to use various types of terminals, more emphasis on Immediacy, efficiency, and flexibility [3].

Whenever there are important social emergencies, "Weibo" often becomes the first publishing platform. Practice is the essence of engineering, and practical teaching, as an important part of engineering education, not only cultivates students' engineering quality and scientific quality [4] but also for Cultivating students' cultural quality and physical and mental quality plays an irreplaceable role. Practical teaching also plays a unique role in cultivating students' innovative ability [5]. The cDl0 reform model is a reform practice involving many countries. It was established by the joint exploration and research of four universities including the Massachusetts Institute of Technology. It is the latest achievement of international engineering education reform in recent years.

The international professional certification standards are "student-centered", "output-oriented (OBE)" and "continuous improvement" as the core concepts, requiring all educational activities to be oriented around the graduation requirements for cultivating students and the training goals for five years after graduation [6]. In the international mutual recognition system of engineers, the Washington Accord is the most authoritative and international. In 2006, China's engineering education professional certification work officially began, and it has become an important measure to build my country's higher engineering education quality monitoring system and improve the teaching quality of engineering education [7]. Management measures will most likely affect the harmony and stability of society.

In recent years, the research and supervision of online public opinion has been highly valued by the party and the state. It has a strong influence, and its posts receive a high degree of attention (such as the number of clicks and replies) [8], which is the so-called hot post. This dissemination process enlightens us, if we can predict the popularity trend of online forum topics from the time series formed by the number of post clicks (or the number of replies) [9]. Clustering Non-overlapping Community Discovery Algorithms", these studies all emphasize that social networks are different from ordinary Internet services, and they pay more attention to the relationship between users [10].

In recent years, more and more scholars in our country specialize in teaching models [11]. In the article "Representations, Causes and Countermeasures of the Homogenization of University Teaching Models in my country", Han Hongwen proposed that my country's university teaching models show a tendency to homogenize [12], which is mainly reflected in the knowledge-centered teaching concept, so that students know how to play in a modern team. Con-ceive, design, implement and operate complex, high-value-added engineering products, processes, and systems in an environment, mainly described through the CDIO syllabus and standards" [13].

The professional certification standard of engineering education requires college students not only to have a solid theoretical foundation and professional knowledge, but also to have the ability to analyze problems [14], solve (design and develop) problems, and research problems by using professional knowledge and modern tools. The degree of participation (such as the number of reports, comments, retweets, etc.) is an important measure to measure the

popularity of network events, and these measures are presented as a time series over time [15].

In addition, it introduces the key technical means of using an open platform for social network data capture— “authorized access” and “open API”. This method brings many drawbacks [16]. To determine which posts are popular, you can mine potential potential posts based on predictions. Advanced users, and then realize the management and analysis of online forums through the analysis of advanced users [17]. There are two main aspects: one is the development and maintenance costs brought about by the dynamics and complexity of the social network itself, and the second is the permission restrictions brought by the use of OpenAPI [18].

2. THE PROPOSED METHODOLOGY

2.1 The Real-Time Capture and Mining of Online Forum Data

In real life, people's participation in network events (such as the number of reports, comments, forwarding, etc.) is an important measure to measure the popularity of network events, and these measures are presented as a time series with the change of time. In this paper, wavelet transform is used to transform the time series formed by the number of clicks (or replies) of a post, and the transformed low-frequency and high-frequency wavelet coefficient values are obtained. Each wavelet coefficient is evaluated according to the time series of the training set (including hot posts and non-hot posts).

When the user relationship to be crawled is determined and the content is crawled, it can be considered that the crawling strategy indirectly affects the crawling of the content. The grabbing subsystem will grab these two kinds of information separately and store the content-oriented data and relational data separately. Events are generated at a specific time and place by a series of reasons and conditions and are generated for a certain group of people. It is manifested in a series of reports and documents related to it. Mallet [3] gave a pyramid algorithm for fast decomposition of wavelet coefficients on the basis of MRA and constructed a high-resolution method for wavelet decomposition and reconstruction., a low-pass filter bank, which greatly simplifies the calculation of wavelet coefficients.

Provide application-oriented encapsulation for specific applications. In the social network data mining system Social Fetcher, it provides encapsulation for social network data capture provides incremental capture mechanism, configurable parameters, exception recovery mechanism, and some general components It is convenient for users to write and log in. There are many decomposition methods for non-stationary time series. Empirical Mode Decomposition (EMD) [16] is a signal processing method proposed by Huang et al. of NASA. The essence of this method is to smooth the signal.

2.2 The Computer Distance Education in Higher Vocational Colleges

Engineering education certification requires that university education must adhere to the principles of "student-centered" and "output-oriented” and carry out "continuous improvement". That is, guided by the professional training goals and graduation requirements, all teaching activities and professional construction should be centered on how to make all students achieve this goal and ability requirements. Comprehensive exploration experiments can promote students to analyze and think more about problems. Useful for the application of knowledge. However, due to the outdated teaching methods, students' initiative, enthusiasm, and creativity are limited, and they have been in the dilemma of passive practice for a long time.

Teachers and students are the core subjects involved in CDIO reform. The teaching effect is divided into two levels: "the effect of students' learning". Students occupy the main position in teaching, and their active participation in teaching and learning effect are one of the important signs to measure the success or failure of reform. Teachers are the main body of teaching activities, and in most in this case, the theoretical knowledge of the textbook is just blindly taught rigidly, and the students' thinking moves along the pre-determined "travel route". Due to the lack of innovative consciousness and enlightening education, the scientific paradigm became the mainstream of the scientific paradigm. The mainstream paradigm of engineering education in the United States. The scientific tendency of engineering education has led to the gradual blurring and weakening of engineering education. Engineers began to reject the scientization of engineering education. my country's "Engineering Education Professional Accreditation Standards (Trial)" stipulates that "practice links and graduation projects (thesis) are about 25% of the total credit arrangements" in the curriculum system. Although some engineering colleges can set up 25% of the practice links according to the standard requirements, in the process of specific implementation, the reform involves all aspects of the entire engineering education reform. For schools in different countries, different levels, and different specific situations, there may be positive reference.

2.3 The Intelligent Analysis of Feedback for Teaching Mode of Higher Engineering Education

The production process of enterprise products includes users generate needs, but the traditional classroom teaching mode has many problems or defects, which makes it difficult to meet the quality and ability training needs of college students for professional certification. The first is cramming indoctrination: students are always in a passive state, and teachers are not able to "student-centered" and "output-oriented (OBE)" in accordance with professional certification. With economic globalization and the worldwide technological revolution with the rise, all countries have adopted corresponding strategic plans and measures to deal with new opportunities and challenges. Developed countries such as the United States, the United Kingdom, and Germany gain profits by occupying the commanding heights through technological innovation. This process is inseparable from the technical talents cultivated by engineering education.

Teachers and students are the core subjects involved in CDIO reform. The teaching effect is divided into two levels: "students' learning effect". Students occupy the main position in teaching, and their active participation in teaching and learning effect are one of the important signs to measure the success or failure of reform. The CDIO model emphasizes students' active learning, which is It helps students to learn more things and improve their motivation to learn, so as to achieve the expected learning effect and form a habit of lifelong learning. Taking the teaching of the "automatic control principle" course as an example, firstly, teachers and students learn the teaching content system, Supported graduation requirements basic points and course objectives, etc.

In view of the abstract and difficult to understand characteristics of this course, in the process of teaching related

control theory, often ask questions and inspire thinking, and guide students to connect abstract control theory with things or objects related to students' life or study. Standardized practice link. The project begins in September and is completed in May of the following year, covering a total of 1200 to 1500 hours. Practical aspects of the clinical program include assignments, orientation days, design reviews, project days, and field trip sponsors.

3. CONCLUSIONS

This paper proposes a crawling framework based on the characteristics of social networks. The framework treats social network content information and relationship information differently, provides general capture and storage support, analyzes its main problems, and focuses on the "student-centered", "output-oriented" and "continuous" engineering education professional certification standards system. Based on the concept of "improvement", put forward the reform direction and ideas of college classroom education mode: the traditional classroom teaching mode is transformed into the teaching mode reform ideas of dialogue classroom, open classroom, full stop classroom and ability classroom, and dynamic feedback is formed between capture and storage.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 96 - 102, 2023, ISSN:- 2319 - 7560
DOI:10.7753/IJSEA1206.1028

Watermarking Approach based on Hybrid of DWT- SVD and ECC Algorithm

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Abstract: Digital watermarking is the process of embedding a digital signal within digital media for copyright or authentication purposes. Digital image authentication is a major concern for the digital revolution because it is simple to alter any image. In the past few decades, ensuring the authenticity of digital images has been an imperative concern for researchers. Several suitable watermarking techniques have been developed based on the intended applications to address this concern. However, it is challenging to develop a watermarking system that is both robust and secure. This paper proposes digital watermarking techniques using DWT, SVD, and ECC algorithms with the random spread technique, which has been shown to enhance the output image quality. SVD-based watermarking modifies the singular values of the host image, whereas DWT-based watermarking modifies the coefficients of the high-frequency sub-bands of the host image. In contrast, ECC-based watermarking generates a digital secret using the owner's private key, which is then embedded in the watermark using a secret key. The DWT and SVD techniques offer excellent imperceptibility and robustness, whereas the ECC-based technique offers high security and authenticity. The simulation of these techniques is carried out using MATLAB, and the simulation results demonstrate their efficacy in terms of PSNR, MSE, and RMSE and normalized cross-correlation (NCC).

Keywords: Image watermarking SVD DWT, ECC,Haar transform, Digital watermarking.

1. INTRODUCTION

Image processing and the internet have made it much easier to copy, change, reproduce, and distribute digital photos at low cost and in almost real time, without losing the quality of the photos. This is possible because of how the two technologies work together. The development and improvement of network technology has happened so quickly that it puts the safety and privacy of data at risk. So, the authentication of content, the protection of copy rights, and the protection against duplication are all very important parts of the process of dealing with both the threats that are already here and the ones that will come up soon.[1] The process of digitally watermarking an image, also called digital image watermarking, is a simple way to make sure that the image can't be changed, that the owner owns all intellectual property related to the image, and that the image is real. Worries about how safe multimedia files are. Any kind of digital information, like photos, sounds, and movies, can be used to hide information. During the sending, processing, and storing of data, it is possible for digital content to be stolen, copied, and spread illegally through a physical transmission medium. This can happen in each of these three ways. Digital picture watermarking is the process of putting watermark data into a multimedia product and then getting that data out of the multimedia product or finding it in the multimedia product itself. These methods make sure that the image hasn't been changed, that it's been verified, that its content has been checked, and that it's been added [2-3]. If you want to get rid of a watermark, you can't just show the material that has been watermarked or change it into a different file format. Because of this, you can look at the watermark to find out what has changed after an attack. It is important to know how digital watermarking differs from other technologies like encryption [4]. Digital picture watermarking techniques make it possible for a number of processes, such as going from digital to analogue, compression, changes in file format, re-encryption, and decryption, to be done without the watermark being destroyed. Because it can do all of these things, it can be used in place of cryptography or to help it.[5] Since the information is hard-coded into the text, it can't be taken out by using the text normally. The word "steganography" comes from the Greek word "steganos," which means "hidden." This method hides communication and changes an image in such a way that only the sender and the person to whom the message is meant can figure out what was sent.[6] This method makes it harder to find the person. Steganography is an alternative way to protect one's privacy and safety. Instead of encrypting communications, it can be used to hide them in other things that don't look like anything suspicious. Steganography can be used for both privacy and safety because of this. [7] On the other hand, steganography is a technology that can be used to share information and plan terrorist attacks. This is because of how quickly the internet and computer networks have grown.[8] Steganography is used to hide a cover image, while watermarking puts a message into the parts of a digital signal instead of the signal itself. So, a person who is listening in can't delete or change a message in order to get an output message. It is important to embed information into the original image so that content can't be seen by people who shouldn't be able to.[10] Steganography hides the existence of a cover image, while a watermarking technique embeds a message into the actual content of the digital signal within the

signal itself. Therefore, an eavesdropper cannot remove or replace a message to obtain an output message.[11] To protect content from unauthorized access, embedding information into the original image is essential. Digital image watermarking is imperceptible and hard to remove by unauthorized persons.[12]

Image Watermarking Backgrounds and Frameworks

Due to the rapid growth of global computer networks, the internet, and multimedia systems, digital content can now be easily shared through many different channels of communication. By thinking of digital image watermarking as a research area, it is possible to build a platform for researchers. [13]This is done to protect digital information from being stolen, copied, changed, used, or shared illegally through physical transmission media during communications, processing of information, and data storage. [14]

Random spread and non-random spread techniques are two different methods used for embedding watermarks into digital media such as images, audio, and video. [15]

Random spread technique: In this technique, the watermark is spread randomly over the host media using a random key. The idea is to make it difficult for attackers to locate and remove the watermark. The random spread technique is typically used in conjunction with a secure encryption algorithm to provide additional security.[8]

Non-random spread technique: In this technique, the watermark is spread over the host media using a predetermined pattern. The pattern is designed to ensure that the watermark is imperceptible to the human eye while also being robust to common attacks such as compression, cropping, and filtering. The non-random spread technique is typically used in conjunction with a robust watermarking algorithm to provide additional robustness.[16]

2. PROPOSED WORK

In our work, we explore a new hybrid approach of DWT + SVD and ECC algorithm for security, for the improved quality of watermark insertion and extraction procedure. The DWT using Haar wavelets can be used to transform the input data into frequency components that can be analyzed and processed separately. SVD can then be used to reduce the dimensionality of the transformed data, while preserving important features. Finally, ECC can be used to encrypt the compressed data to protect it from unauthorized access this method is meant to improve the quality of the process of adding and removing watermarks. The benefit of this proposed method is that it is both hard to find and long-lasting, which are both good things to look for in an algorithm. When DWT and SVD are used together, they will shed light on the possible mechanisms that are responsible for the owner's authenticity and resistance to different types of attacks. The suggested algorithm has two parts: the algorithm for embedding the watermark and the algorithm for getting the watermark out. The "Watermark Embedding Algorithm" and the "Watermark Extracting Algorithm" each have detailed explanations of both parts of the algorithm, as well as flowcharts for each. Embedding a watermark Figure 5, which can be found here, shows the steps that need to be taken to embed a watermark. The suggested method starts with picking a secret key, which is then used to make a random matrix, which is then used to put the watermark all over the image. The watermark is then changed by using DWT, and the DWT coefficients that are made as a result are changed by adding the spread watermark. The modified DWT coefficients are then inverse transformed using IDWT to obtain the watermarked image.

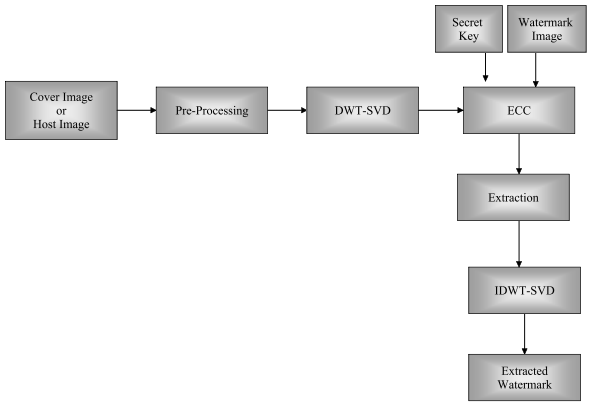


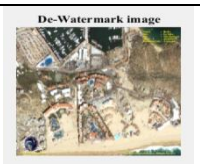
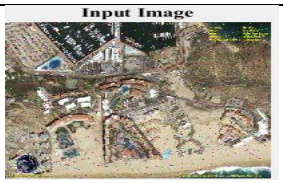
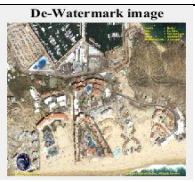
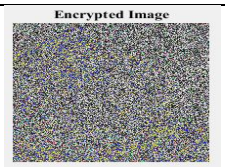
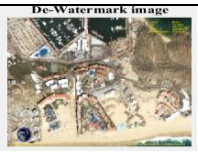
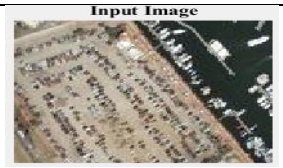
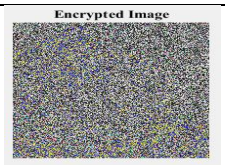
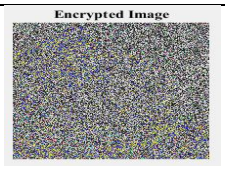
Fig.2 proposed flow diagram

3. RESULT DISCUSSION

Embedding time and extraction time are two important factors to consider when evaluating the performance of a watermarking algorithm. The noise attacks are common types of attacks used to test the robustness of watermarking algorithms. Salt and pepper noise adds random black and white pixels to the image, while Gaussian noise adds random values to each pixel based on a Gaussian distribution. Mean filtering is a common noise reduction technique that averages the values of neighboring pixels to reduce noise. JPEG compression is a lossy compression technique that can reduce the quality of an image, while cropping and scaling attacks modify the size and content of the image. Blur and unsharp attacks can also be used to alter the appearance of an image, potentially affecting the accuracy of watermark extraction.

Table 1 Visual results proposed approach for random spread technique

International Journal of Science and Engineering Applications
Volume 12-Issue 06, 96 - 102, 2023, ISSN:- 2319 - 7560
DOI:10.7753/IJSEA1206.1028

Types of attack	Input image	Watermark Image	Encrypted Image	De-Watermark Image	Extarcted Image
No Attack					
JPEG					
Salt And Pepper					
Scaling					
Gaussian Noise					
Mil Filter					
Crop					
Blur					

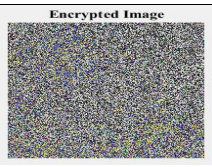
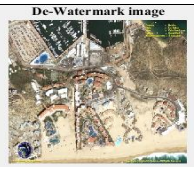
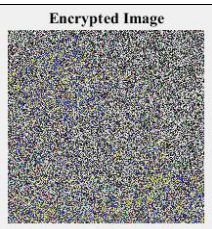
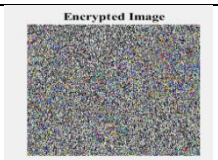
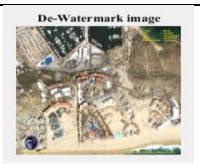
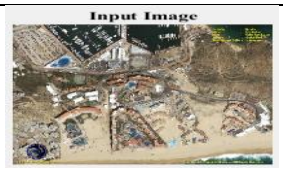
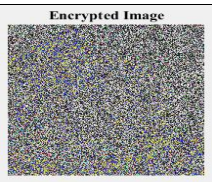
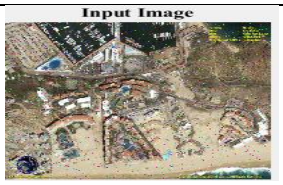
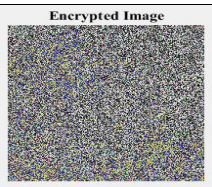
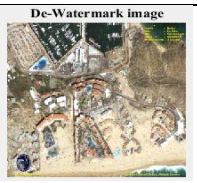
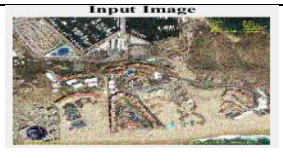
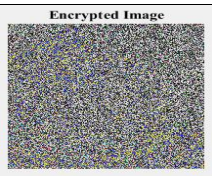
Unsharp					
Average					

Table 2 Visual results proposed approach for non-random spread technique

Types of attack	Input image	Watermark Image	Encrypted Image	De-Watermark Image	Extarcted Image
No Attack					
JPEG					
Salt And Pepper					
Scaling					
Gaussian Noise					

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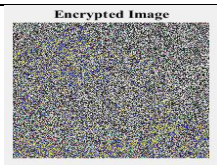
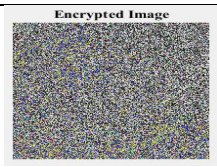
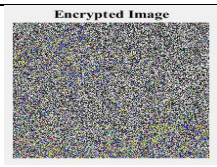
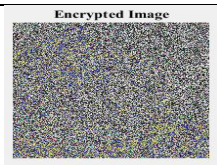
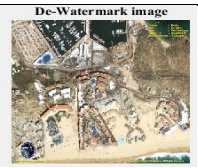
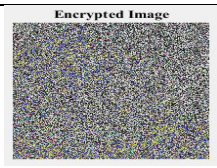
Mil Filter					
Crop					
Blur					
Unsharp					
Average					

Table 1 PSNR, MSE, RMSE performance o**f** the proposed approach

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DOI:10.7753/IJSEA1206.1028

4. PERFORMANCE MEASURE

The table 1 above shows a comparison of different techniques used in image digital watermarking and their respective peak signal-to-noise ratio (PSNR) values. The PSNR metric measures the quality of the reconstructed image by comparing it to the original image. The results show that the proposed approach of DWT + SVD + ECC achieved the highest PSNR value of 52.36 dB, indicating better image quality compared to the other techniques.

5. CONCLUSION

In this study, a strong and effective SVD, DWT, and ECC-based picture watermarking method is given to increase the security level of the image. The scrambled watermark is added to the cover image using the SVD and three-level DWT algorithms. The suggested method was put to the test by putting watermarked photos through a series of attacks that got harder and harder. The results showed that the proposed method worked well and met the requirements for watermarking. This is because the method improves the capacity and security of embedded watermarks without hurting the quality of the cover image. This can be especially important in secure applications for telemedicine. By simulating them in MATLAB, different watermarking systems can be tested quickly to see how well they work. MATLAB has a number of built-in functions that can be used to create watermarking methods. It also lets users test how well the watermark holds up against different attacks, such as JPEG compression, cropping, and scaling. As part of this project, different, easier methods will be tried out to improve the quality of the images that have been watermarked. An ECC algorithm is used to spread the copyright image when it is added to the image of the container. Using SVD, DWT, and ECC algorithms, you aim to improve the security of the watermark while minimizing the impact on the image itself. Overall, your work seems to contribute to the development of more effective and secure digital watermarking techniques that can be useful in various applications.

Image	**Random Spread**			**Non Random Spread**		
	PSNR	MSE	RMSE	PSNR	MSE	RMSE
Image 1	50.0062	0.51	0.7182	48.48	0.57	0.88
Image 2	47.20	0.88	0.88	48.88	0.48	0.88
Image 3	48.17	0.86	0.82	50.58	0.47	0.86
Image 4	46.31	1.52	1.2	52.33	0.52	0.88
Image 5	52.12	0.87	0.85	48.22	0.51	0.87
Image 6	50.47	0.88	0.82	47.88	0.48	1.3
Image 7	48.17	0.72	0.88	48.40	0.46	0.88
Image 8	46.88	0.85	0.88	50.66	0.48	0.86
Image 8	51.36	0.88	0.84	51.38	0.57	0.88
Image 10	51.56	1.23	0.86	48.63	0.52	0.88

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 103 – 105, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1029

Analysis of Related Factors in Patients with Parkinson's Disease and Osteoporosis

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Abstract: To explore the related risk factors of elderly Parkinson's disease with osteoporosis. A total of 10776 patients with Parkinson's disease were selected. According to the results of bone density examination, 293 cases were divided into the osteoporosis group and 714 cases in the non-osteoporosis group. The correlation between the occurrence of Parkinson's disease with osteoporosis and human factors, vascular risk factors and serum bone metabolism characteristics was analyzed. Patients with Kimson's disease should be treated in time, exercise moderately, strengthen nutrition, and supplement vitamin D to reduce the occurrence of the osteoporosis.

Keywords: Related Factors; Parkinson's Disease; Osteoporosis

1. INTRODUCTION

Parkinson's disease, also known as Parkinson's paralysis, is a neurodegenerative disease that is more common in the elderly 60 years old. With the aging of the population, the incidence of this disease is increasing year by year. Its main clinical manifestations are bradykinesia, muscle rigidity, and postural disturbance, accompanied by resting tremor. Therefore, patients with Parkinson's disease are prone to falls and fractures, which is one of the main causes of poor quality of life, disability, and death in the elderly 、. This phenomenon is not only related to slow movement and rigid posture, but also related to the occurrence of osteoporosis in patients. Osteoporosis is a common disease in the elderly, and it is a systemic metabolic bone disease mainly characterized by susceptibility to fractures. Studies have shown that patients with Parkinson's disease are more likely to suffer from osteoporosis H1.

This study analyzes the risk factors of elderly patients with Parkinson's disease and osteoporosis and provides a basis for clinical early intervention. Although fractures are closely related to postural balance disorders in patients, decreased bone mineral density in Parkinson's patients is highly correlated with fractures. After comparing the femoral neck fracture rate between 52 Parkinson's patients and 5943 sex- and age-matched controls, it was found that the fracture and fall rates of Parkinson's patients were significantly higher. Even after adjusting the factors of fractures caused by falls in Parkinson's patients, the fracture rate was still higher than that of the control group. All patients were tested for bone mineral density by dual-energy X-ray bone densitometry, and the detection sites were bilateral radius, femoral neck, and lumbar spine average value.

To analyze the correlation between the occurrence of Parkinson's disease with osteoporosis and human factors and vascular risk factors. 5ml of fasting venous blood was drawn from the two groups of patients in the morning, and the bone metabolism markers parathyroid hormone, osteocalcin, serum calcitonin, and vitamin D were detected. The correlation between the occurrence of Kinson's disease and osteoporosis and serum markers of bone metabolism. Parkinson's patients not only have decreased bone mineral density, but also the decreased bone mineral density is related to the H—Y (Hoehn—Yahr) classification of Parkinson's disease. The higher the grade, the more obvious the decreased bone mineral density, and it is related to the severity of the disease.

In addition, the same study found that 59% of female patients and 19% of male patients had osteopenia. Among 105 Parkinson's patients, 63% of women and 20% of men had osteoporosis. Osteopenia was present in 41% of men and 28% of women, indicating that the course of the disease was associated with a decrease in bone mineral density, whereas the severity of the disease was not.

2. THE PROPOSED METHODOLOGY

2.1 People with Parkinson's disease are highly associated with osteoporosis.

The reduction of bone mineral density itself is an important independent risk factor for femoral neck fractures in patients with Parkinson's disease, and it is related to the H—Y classification and course of the disease. Patients with different H—Y classifications of Parkinson's disease will need vitamin D The level gradually decreased， and the incidence of osteoporosis gradually increased (20.3% us24.7% u 531.9% but s33.5% us35.2%). Vitamin D levels in different H—Y grading osteoporosis groups were significantly lower than those in non-osteoporosis groups ($P<0.01$).

Calcitonin levels in H-Y3, H-Y4 and H-Y5 osteoporosis groups were significantly higher than those in non-osteoporosis groups, and osteocalcin levels were significantly lower than those in non-osteoporosis groups (Po.05, Table 2). The patient's reduced outdoor activities lead to insufficient sunlight exposure, and insufficient sunlight exposure will cause calcium metabolism disorders. A two-year study proved that. Parkinson's patients who received 13 light irradiation for more than 15 minutes a day, their bone mineral density increased by 3.8% after two years, and their 25-OHD also increased significantly, while the bone mineral density of patients in the control group decreased by 2.6%. 25-OHD also significantly reduced Hj.

Therefore, Parkinson's patients should exercise properly and ensure enough "sunbathing" time, to delay the progress of osteoporosis, prevent the occurrence of fractures, and improve the quality of life. Parkinson's patients often have mild to moderate malnutrition, which is related to dysphagia and gastric emptying disorders caused by the disease. The lack of nutrition leads to lower BMI of patients. And insufficient intake of vitamin D and calcium. The reduction of bone mineral density is correlated with BMI, the lower the BMI, the higher the incidence of fracture. The important role of 25-OHD in bone metabolism is self-evident. Vitamin D deficiency itself is a high-risk factor for fractures, and vitamin D deficiency is extremely common in Parkinson's patients. There are studies to confirm. 55% of Parkinson's patients are deficient in vitamin D. Parkinson's disease patients generally suffer from osteoporosis due to slow movement, bone loss and insufficient intake of vitamin D and calcium. Of the 996 patients with Parkinson's disease in this study, 282 were osteoporotic, accounting for 28.3%. This study found that the age, female, and body mass index of the osteoporosis group were significantly higher than those of the non-osteoporosis group, and the bone density was significantly lower than that of the non-osteoporosis group, and the difference was statistically significant.

At the same time, the intake of calcium in patients with Parkinson's is far from enough. For the prevention of fractures, the International Osteoporosis Institute recommends at least 1200 mg of calcium and 800 IU of vitamin D per day. However, Parkinson's patients have swallowing disorders and constipation problems, and their compliance with long-term calcium and vitamin D intake is extremely poor. Therefore, to prevent osteoporosis in patients with Parkinson's disease, it is necessary to solve the malnutrition problem and improve the swallowing function of patients. Getting enough vitamin D and calcium at the same time is crucial. Bone mineral density was significantly reduced in bone mass examination. This study also found that the severity of Parkinson's disease patients with osteoporosis was correlated with vitamin D, osteocalcin, and calcitonin. 109istic regression analysis showed that age, female, body mass index, and vitamin D were independent risk factors for Parkinson's disease with osteoporosis.

2.2 Causes and countermeasures of osteoporosis in patients with Parkinson's disease.

It is known that taking large doses of levodopa can cause hyperhomocysteinemia in patients, and hyperhomocysteinemia is also related to the reduction of bone mineral density. Therefore, reducing homocysteine may have a certain effect on the prevention of osteoporosis in patients with Parkinson's disease. This study found that age is an independent risk factor for the occurrence of Parkinson's disease with osteoporosis. As the age increases, the bone mass of the human body will gradually decrease, and the secretion of sex hormones will also gradually decrease. The secretion of calcium-regulated hormones will be impaired, which will cause bone metabolism disorders and lead to osteoporosis.

With the further intensification of population aging in my country, studies have shown that the number of osteoporosis patients in my country will increase to nearly 300 million in 2020, accounting for more than half of the world's osteoporosis patients. Therefore, aging is a risk factor for osteoporosis. The average age of onset of Parkinson's disease is 55 years old, more common after 60 years old. Studies have shown that body mass index is strongly related to the occurrence of osteoporosis. Low body mass and low body mass index are two independent risk factors for postmenopausal osteoporosis. Patients with Parkinson's disease often suffer from mild to moderate malnutrition, which is related to insufficient nutritional intake caused by Parkinson's disease, dysphagia, and drug side effects.

Vitamin D deficiency is common in patients with Parkinson's disease, which is related to slow movement, muscle rigidity, less sunshine when going out, and insufficient intake of vitamin D and calcium. In this study, vitamin D levels in the osteoporosis group were significantly lower than those in the non-osteoporosis group. Vertebral fractures are highly correlated with osteoporosis, with only a quarter of vertebral fractures caused by falls. The vertebral fracture rate of Parkinson's patients is much higher than that of the control group, indicating that Parkinson's patients may have osteoporosis. Numerous studies prove it. Bone mineral density in Parkinson's patients compared with age-matched controls. As stated, osteoporosis is a very common phenomenon in Parkinson's patients, and it is related to the course of the disease, the severity of the disease, body mass index, etc. certain correlation. Parkinson's disease is even an important cause of secondary fractures. However, it is often missed.

Osteoporosis indirectly led to the occurrence of fractures, further aggravating the condition. Therefore, neurologists must be aware that once a patient is diagnosed with Parkinson's disease, bone mineral density should be routinely tested, especially at the femoral neck. To have a comprehensive understanding of the patient's osteoporosis and assess the risk of future fractures in the patient. And patients need to be encouraged to exercise properly. Engage in more outdoor activities to increase the time of "sunbathing", and pay attention to improving the nutritional status of patients and supplementing enough calcium and vitamin D. At the same time, the family members of the patient should take good care of the patient to minimize the risk of fracture caused by the patient's fall. Multivariate 109istic regression analysis of items with statistical significance in univariate analysis showed that age, female, body mass index, vitamin D is an independent risk factor for the occurrence of Parkinson's disease with osteoporosis, bone mineral density, osteocalcin and calcitonin are not associated with the occurrence of Parkinson's disease with osteoporosis.

3. CONCLUSION

The results of this study showed that age, female, body mass index, and vitamin D were independent risk factors for the occurrence of Parkinson's disease with osteoporosis. Therefore, patients with Parkinson's disease should be treated in time, exercise moderately, strengthen nutrition, and supplement vitamin D to reduce the occurrence of osteoporosis. Among them, Parkinson's disease is highly correlated with osteoporosis, and patients with Parkinson's disease are high-risk groups for osteoporosis. The reduction of bone mineral density in patients with Parkinson's is related to age, gender, disease duration, and disease severity. In clinical work, we must pay attention to the monitoring of bone mineral density in patients and guide them to avoid fractures.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 106 – 108, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1030

Innovative Paths of Modern Fiscal and Taxation Financial System to Facilitate the Coordinated Development of Regional Economy

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Abstract: Our country's regional economic development is in an unbalanced state, so the development of regional economic cooperation is getting more and more attention. Financial development is an important condition for the realization of regional economic development. Financial innovation will have an important impact on regional economic growth. There is a close relationship between financial service innovation and regional economic development. At present, the relationship between the two needs to be properly handled to fully promote the regional economy. increase. Develop science and technology finance to promote scientific and technological progress, develop green finance to strengthen ecological and environmental protection; develop consumer finance to support the adjustment of demand structure; develop stratified finance to promote balanced regional development; develop county-level finance to promote rural economic development.

Keywords: Innovative Paths, Fiscal and Taxation, Financial System, Coordinated Development, Regional Economy

1. INTRODUCTION

Judging from the current situation of regional economic development in our country, the current imbalance problem is gradually highlighted, and the regional economy is gradually expanding. It needs to be analyzed from many aspects to realize the rapid and coordinated development of regional economy. From the perspective of my country's economic development model, it can be divided into four major sectors, namely the eastern, western, central, and northeastern sectors. Among them, the economy in the east is relatively developed, and it accounts for 36% of the national population. It has created 56% of the national GDP, and the per capita GDP has reached 23,890 yuan. Already 1.8 times the national average. My country's regional economic development is facing an imbalanced problem. Realizing the optimization of my country's economic growth model can ultimately promote the improvement of the quality of my country's economic development, enhance the market's ability to resist risks and my country's international competitiveness.

The reality of the current market development is that my country's rapid economic growth for many years is driven by investment and savings, especially the economic model of investment growth, which has become a fetter of my country's economic development, and more and more restricts the pace of my country's economic progress. Promote my country's urban the rapid development of low-carbon economy. As mentioned above, technology and capital constraints in the development of low-carbon economy affect the development motivation of micro-subjects of low-carbon economy. As a low-carbon fiscal and financial system, not only the role of the promoter of the low-carbon economy, but also its low-carbon market guiding role, that is, fiscal and financial financing support on the one hand, and fiscal and financial restrictions on the other. The development of the capital market is an important condition for regional economic growth. For example, the Shanghai Stock Exchange and the Shanghai Futures exchange provide important financing platforms for the economic development of the Yangtze River Delta region. At the same time, they can effectively avoid various price risks and provide high efficiency for its economic development platform. Enterprises need capital platform support in the process of recapitalization and property rights transactions, so that close cooperation can be established between enterprises. Regional financial interaction can better improve the level of financial services and achieve rapid economic growth.

In 1991, the contribution rate of my country's primary industry was 7.1%, and the pull rate of primary industry to GDP growth was 0.6%. By 2010, the contribution rate of my country's primary industry was 3.9%, and the pull rate of the primary industry to GDP growth was 0.4%. Both the contribution rate and the pull rate of the primary industry have declined significantly. In 1991, the contribution rate of my country's secondary industry was 62.8%, and the pull rate of secondary industry to GDP growth was 5.8%. The government guides financial institutions to strengthen environmental assessment and risk control through policy incentives and laws and regulations. Many laws and regulations in the United States to promote the development of green finance stipulate that banks must consider the environmental responsibility of the flow of credit funds, otherwise they will bear the environmental responsibility caused using credit funds; the bank of England incorporates environmental factors into the corporate credit evaluation system, and the government uses guarantees to encourage environmental protection Enterprise credit financing.

From 1927 to 1934, the proportion of US federal intergovernmental transfer payment in federal government expenditure increased rapidly from 3.6% to 19.7%. On the other hand, through various measures such as regional planning, financial assistance, and water conservancy construction, it will promote the economic development of the backward areas in the south, especially the Tennessee Valley. Although the comprehensive management and development of the Tennessee River Basin has made great achievements, the US federal government's economic assistance to the backward areas was still very limited throughout the 1930s. Establish regional development industry funds and capital

lending markets. Establish a fund lending market, and appropriately tilt capital investment to small and medium-sized enterprises and enhance the economic vitality of the region by promoting the development of small and medium-sized enterprises.

2. THE PROPOSED METHODOLOGY

2.1 Differences in China's Regional Economic Development and the Modern Fiscal and Taxation Financial System

Develop regional financial markets and provide market conditions for regional financial cooperation. Under the current background of my country's obvious division of eastern, central, and western regions, it is possible to consider establishing Beijing as the national financial center, Shenzhen, Wuhan and Chongqing as regional financial centers in the south, central and western regions respectively, and promote the development of regional financial cooperation through the cohesion of financial centers. The extensive economic growth mode under the planned economic system means that high economic growth is accompanied by high energy consumption. Compared with the world, my country's total energy consumption per unit of GDP is generally high, which is seven times that of Japan and three times that of the United States. To change the long-term economic growth mode that relies on energy consumption, we must give full play to the power of science and technology, develop technology finance, and promote scientific and technological progress.

Finance is conducive to promoting the improvement of the level of science and technology and is conducive to promoting the upgrading of my country's industrial structure and the optimization of economic development methods. To promote the development of poverty-stricken areas, the United States has formulated and implemented an effective regional development strategy. This includes two aspects: one is the "comprehensive strategy". First, the federal government has adopted comprehensive measures such as extensive fiscal policies to maintain a relatively high economic growth rate in poor areas. Second, the federal government eases the pressure on fiscal spending in these areas through unemployment benefits, health care programs, public assistance, etc. Again, provide tax relief. On the other hand, is the "radical strategy". The federal government promotes the development of backward regions through regional development programs, vocational training, and support education.

Specifically, there are three main aspects: first, establish a regionalized capital market, support qualified companies to speed up listing, and expand the proportion of direct financing; second, consider establishing a regional bill market, focusing on cultivating bills with a good economic foundation and great development potential the discount window will expand the circulation of bills; the third is to accelerate the establishment of cross-regional closed investment funds to support key projects that share interests across regions. Financial service innovation and financial mechanism construction are closely combined. At present, it is necessary to establish a sound financial service management innovation mechanism according to the actual situation to promote financial service model innovation. For the "three high" industries and production capacity process industries, highlight the green financial function, financial institutions can take advantage of the financial policy and capital market's fund-guiding functions and advantages to increase credit rates, increase credit thresholds, curb the excessive development of high-pollution industries, and reduce their credit support to affect their development scale and avoid serious environmental pollution problems. .

2.2 The financial policy's contribution to the development of modern regional economy

Use state-owned capital to drive social investment. This measure refers to the establishment of state-owned enterprises or state-owned holding enterprises in backward areas by the state through direct investment or joint ventures with local financial funds and other capitals, to drive and attract the entry of other capitals. France, Spain, the United Kingdom, etc. have promoted the economic development of backward regions by establishing state-owned enterprises in backward regions. Ensure the safety of financial capital flow, and at the same time ensure that financial decision-making is more scientific and reasonable. Actively realize technological innovation, such as establishing a complete platform for ATM, Pos, and electronic credit and bookkeeping, and establishing a complete financial information sharing platform to ensure that the credit information system can be coordinated. Credit system construction is also an important part of financial service innovation, which plays an important role in improving the operating environment of financial institutions and improving the level of bank loan management.

Utilize the guiding and supporting role of credit policies, give full play to the two-way pulling advantages of investment and consumption, realize investment to create new consumption, new consumption to cultivate new economic growth points, and drive the expansion of investment fields. Guide the flow of funds, promote the inflow of investment in the fields of science, education, culture, health, and other undertakings, and promote the improvement of the service level of social undertakings. Unbalanced regional economic development is a common problem in the world today, and it is also an important goal of the government's macro-control. No matter which country, in the process of narrowing the regional development gap and realizing the coordinated development of regional economy, it attaches great importance to the use of fiscal, taxation and financial means. After decades of hard work, the governments of the United States and Germany have accumulated rich experience in this regard.

Through the product innovation, mechanism innovation and service innovation of community banks and regional banks, it can effectively solve the financing bottleneck of small and medium-sized enterprises, especially emerging enterprises with high technology, and further improve the financial organization system. The financial holding company has the function of saving transaction costs and dispersing financial risks. It can accommodate financial innovation to a greater extent and provide a broad space for the development of the regional financial industry. Due to differences in history, geography, and regions, there has been a problem of regional imbalance in the development of my country's economy for a long time. Especially after the "Eighth Five-Year Plan", the regional economic gap in my country has rapidly expanded by 7.11 percentage points. From the perspective of geographical location, the speed and level of economic development in the eastern region are significantly faster than those in the central region, and the central region is significantly faster than that in the west. According to competition theory, a certain gap can stimulate the vitality of competition in backward regions and promote the rational allocation and flow of resources between regions. However, another aspect of competition

theory proves that excessive regional differences will affect regional economic imbalances and economic development. chaos, as well as the transformation of my country's economic development mode and the sustainable development of the economy.

In the practice of using fiscal policy to develop backward regions, governments of all countries avoid scattered use of fiscal funds. EU countries have all experienced the evolution of fiscal funds from decentralized use to centralized use to varying degrees. After entering the 1980s, EU countries adjusted their regional fiscal policies successively. The content of the adjustment is to change the financial subsidy method of "the goddess scattered flowers", narrow the subsidy scope, strengthen the assistance to individual projects, concentrate the use of financial funds, improve the efficiency of fund use, and focus on supporting and stimulating the positive factors and development within the backward areas advantage.

3. CONCLUSION

Regional finance is an important strategy to promote the optimization of my country's economic structure and realize the sustainable development of my country's economy. Under the background of economic transformation, this paper studies the new mechanism of financial service economy from the perspective of financial innovation and proposes the path selection of economic transformation and financial innovation. Finance service innovation is closely related to regional economic development. At present, it is necessary to establish a capital market that meets regional requirements to promote the continuous development of regional economy. The vitality of the regional economy and the innovation of the regional financial mechanism have a mutual influence relationship. At present, it is necessary to proceed from the actual situation of the capital market to promote the efficient development of the regional economy.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 109 – 111, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1031

Exploring and Analyzing the Digital Transformation of the New Retail Industry in the Mobile Internet Era

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Abstract: In the era of knowledge economy, information technology is developing rapidly, and the continuous innovation and upgrading of Internet technology has brought unprecedented changes to people's consumption patterns and consumption habits. On the one hand, the accelerated pace of life pushes consumers to choose more efficient and quick purchasing methods, and the consumption patterns of traditional retail companies are obviously difficult to meet this demand of consumers. On the other hand, the increase in rent, labor and other expenses has increased the operating costs of traditional retail enterprises. Based on a clear transformation strategy, innovation in business models, channels and technologies has been realized. This article analyses and discusses the transformation of traditional retail enterprises in the Internet age based on discussing the challenges that the traditional retail industry faces in the Internet age.

Keywords: Digital Transformation, New Retail Industry, P Mobile Internet Era

1. INTRODUCTION

The advancement of science and technology, especially the rapid development of digital technology has brought new opportunities and challenges to my country's retail enterprises. Especially for traditional brick-and-mortar retailers, offline brick-and-mortar retailers are facing huge challenges related to their own survival in the face of consumers' consumption upgrades and the impact of the Internet. Therefore, with the rapid development of digital science and technology, it has become a strategic choice for most of the traditional retail enterprises to use digital technology to get rid of the downturn and regain their lives. At the same time, as my country's population growth rate declines, the scale of Internet users tends to be saturated, and along with changes in consumer demand, the development of e-commerce platforms has entered a bottleneck period, and online transactions have gradually weakened. The disadvantages of the pure online model gradually began to emerge.

E-commerce platforms have begun to seek cooperation with physical retail companies to realize the combination of online and offline sales methods, providing conditions for the digital transformation of traditional retail companies. In recent years, many traditional retail companies in my country have completed the digital upgrade of commodity procurement, logistics distribution, product marketing, transaction payment and other links, realizing the basic transformation from traditional retail to new retail. Based on social system theory, this paper studies the influencing factors of enterprise digital transformation from the perspective of collaboration system and organizational balance and discusses how traditional retail enterprises can maximize the benefits of enterprise digital transformation and upgrading.

On the one hand, it shows that the growth rate of the overall scale of the industry has declined sharply. Taking the statistics of the China National Commercial Information Center in 2012 as an example, the retail sales of key large-scale retail enterprises in the country increased by 10.2% compared with the previous year, and the growth rate slowed down by 11.5 percentage points. The slowdown rate is the largest since 1999. On the other hand, it is manifested in the sinking of channels and the slowdown of store expansion. Offline sales channels have shifted from first- and second-tier cities to third- and fourth-tier cities; the overall growth rate of stores has slowed down, and the growth rate of eight of the top ten retail stores is zero, and some large retail companies have even closed. store.

In addition, instant messaging, online payment, online media and other changes to retail methods, payment methods, and sharing models have also given online retail a more obvious and powerful advantage in the Internet era. The extension makes online retail have great potential for development. Also in this context, if the traditional retail industry, which is facing greater challenges and impacts, cannot keep pace with the times and make transformations to adapt to the development and needs of the consumer market and consumer groups, then traditional retail enterprises will inevitably have to face the reality that the market will continue to be occupied by online retail. Therefore, in the Internet age, it is the only way for traditional retail enterprises to develop through active transformation to improve their own competitiveness. For consumers, online shopping is more convenient and quicker than traditional shopping, and they have more choices in merchant switching and product comparison.

2. THE PROPOSED METHODOLOGY

2.1 Analysis on the Necessity of the Transformation of my country's Traditional Retail Industry

The online store has much richer commodities than a single physical retail store. It has a huge advantage in categories and grades that cannot be matched by physical retail stores, and its consumption method is extremely convenient. It can switch merchants in an instant, saving a lot of time and energy. Adapted to the rhythm of modern life. Take Joyo Amazon as an example. It has more than 3 million kinds of Chinese and foreign books, while the largest bookstore in my country - Beijing International Book City has only 500,000 kinds of books. Compared with online bookstores, there is a huge gap.

Obviously, online shopping makes consumers There are far more choices than traditional shopping. In addition, Barnard also proposed the balance theory, and divided the balance of the enterprise into two aspects: the internal balance of the enterprise and the external balance of the enterprise. Among them, the internal balance is divided into two parts: adjusting the whole to adapt to the external environment and creating incentives. The external balance is divided into two parts: the coordination and balance of the system in the enterprise through the external environment and the balance of the external environment of the enterprise system.

Barnard's balance theory has important guiding significance in the actual operation of enterprises. The managers of enterprises must ensure the balance of incentives and contributions of each member in the enterprise. Realizing online and offline joint operations through the Internet and mobile Internet can not only break the time and space limitations of single offline product information transmission, but also make up for the authenticity of product information, logistics consignment and payment security faced by single online operations. For consumers, they can not only purchase high-quality and low-cost commodities through rich online product information display, quality evaluation and price ranking, but also enjoy offline services and fully understand the real information of commodities. This model will not affect the development of the main business of traditional retail enterprises. It can also use Internet technology to open the online sales market for itself and attract offline traffic to increase customer stickiness.

In the context of the rapid development of Internet technology, the strategic positioning made by traditional retail companies plays a decisive role in the transformation of business models. Among them, whether a traditional retail enterprise chooses multi-channel development or chooses to further expand in the physical field, it needs to pay attention to making itself reflect the characteristics of the Internet. The characteristics of the Internet should run through the entire value chain of traditional retail enterprises, and in the process of value chain transformation, a combination of virtual and real and different emphases should be adopted. The main obstacle to the transformation of traditional retail business models in the Internet age is that companies themselves do not pay enough attention to Internet-based work, and at the same time, they do not have a very clear positioning for online marketing, which makes it difficult to integrate electronic business into the business process of enterprises. For consumers, it is more convenient and quicker to choose online sellers than traditional retailers. Due to the limitation of business hours, traditional retailers cannot provide customers with uninterrupted services, but online sellers have broken through this limitation and can do It operates 24 hours a day without interruption. Consumers only need to shop online at the time they want, and then wait for the arrival of the goods. This method is more popular among consumers, especially the working class who have less leisure time.

2.2 Transformation Strategy of Traditional Retail Enterprises in the Internet Era

The common purpose is one of the most important factors in enterprise transformation. Its significance is that it helps the enterprise to clarify the division of functional responsibilities and powers of various departments, determine a relatively reasonable management range and organizational level to improve management efficiency, and optimize the organization's ability to use resources, strengthening communication efficiency is an important measure to improve the stability and competitiveness of enterprise transformation. Combined with Barnard's social system theory, it is very important to determine the common goals of enterprises in the process of digital transformation of traditional retail enterprises. Enterprises determine the common goals of the organization to create an organizational collaboration system. The collaboration system in turn affects individuals in the enterprise, satisfies individual motivations, and ensures that the enterprise can receive continuous support and contributions from employees in the process of digital transformation, ensuring future collaboration. Continuous development of the system.

Paying attention to customer service demands, providing personalized and humanized services; Suning has abundant resources, and its store expansion is very rapid. It has opened chain stores in hundreds of cities across the country, giving full play to the scale effect, thus greatly saving operating costs. Cost sunning has built nearly a hundred logistics centers all over the country, and its logistics system construction is ahead of other companies in the industry; in addition to the above advantages, Suning, as a leading company in the industry, enjoys a high voice in the industry, and accordingly negotiates prices with suppliers more advantageous. In the Internet age, the information of retail enterprises has been disseminated through the Internet, the products of enterprises have been equipped with automatic accessories, and the currency can also be transferred electronically. To adapt to these changes, traditional retail enterprises in the Internet age targeted technological transformation should also be carried out.

In the technological transformation of traditional retail enterprises, it is necessary to focus on the following two points: one is to carry out technological retail based on paying attention to big data. Compared with the B2B industry, retail companies face a larger sales group, so in the process of retail business operations, it is more necessary to understand consumer needs and meet consumer needs, and optimize their own supply chain on this basis, and in this process among them, big data can provide technical support. Each market segment is a group of consumers with similar demand tendencies. Traditional retailers should maximize their strengths and avoid weaknesses, accurately analyze the market segments impacted by online sales, accurately grasp, and meet the needs of specific market segments, and choose suitable targets centered on customers. The customer's supply of merchandise items. Taking home appliances that have been greatly impacted by online sales as an example, the operation of online home appliance sellers has the following characteristics: the proportion of major appliances is greater than that of small appliances; the product level is low, mainly concentrated in low-end home appliances; price wars are frequent, attracting customers with low prices is its main business strategy. Technology upgrade is an important part of digital transformation, and its effect is affected by both original technology and new technology.

First, the impact of the original technology. For traditional retail companies, their past business models and technology levels are effective, and they have made outstanding contributions to the company. Therefore, when an enterprise undergoes digital transformation, the elimination of the original technology will cause employees to have a certain degree of self-denial and insecurity. A certain degree of resistance. Therefore, how to set up a reasonable enterprise training system to weaken the resistance of employees is very

important for the successful digital transformation of enterprises.

3. CONCLUSION

To sum up, under the background of the Internet 2.0 era, the Internet of Things, big data, and cloud computing are developing strongly. Traditional retail companies are not only facing more intense market competition, but also have higher requirements for business management. In this regard, traditional retail companies should avoid the phenomenon of being out of touch with the development requirements of the times caused by complacency, insist on giving full play to the advantages of the mobile Internet and itself, and boldly try to combine with the Internet based on the original development model. Service and face-to-face communication have more obvious advantages and richer experience, but in the Internet age, traditional retail companies still need to use the Internet to make up for the lack of communication, especially marketing work needs to take advantage of the Internet to expand marketing space and time, to improve the marketing efficiency of retail enterprises.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 112 – 114, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1032

Research on the Application of Mongolian Traditional Leather Craft Cultural Elements in Modern Leather Craft Creation

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Abstract: The regional geographical environment where the Mongolians live is extremely unique, so they have gradually formed a distinct national aesthetic consciousness in their long-term life, which is clearly reflected in Mongolian leather products. The Mongolian people have long mastered the method of using sewing technology to make various leather products, and their technical level has been continuously improved, gradually becoming a unique craft of the Mongolian people. Most of the Mongolian leather products are made from various animal fur in nature. The method of applying Mongolian traditional leather technology to the modern leather design with national cultural characteristics in Inner Mongolia has been studied, and the design method developed by the author's design practice and theory research to verify, and to design creative tourist souvenirs with Mongolian cultural characteristics that conform to Mongolian traditional aesthetics and modern aesthetic standards.

Keywords: Mongolian Traditional Leather, Leather Craft, Craft Cultural Elements, Modern Leather Craft

1. INTRODUCTION

The rapid development of science and technology in the 21st century has driven the rapid development of the global economy. Under such an era background, how China can maintain a stable and rapid economic development has become an economic topic that has attracted worldwide attention. In the process of exploring the path of socialist market economy with Chinese characteristics in line with China's economic development, my country has proposed a development strategy for the development of national cultural and creative industries in combination with national resource advantages. The national cultural and creative industry is a knowledge-intensive emerging industry that has risen rapidly in recent years. It is a new economic development model that combines national cultural resources and creative industries. It is the development result of the creative industries' continuous pursuit of cultural specificity. The natural texture of leather, leather not only has physical properties, but also has strong plasticity, which is why leather has the beauty of materials.

Since a long time ago, the Mongolian people have known how to make full use of the beauty of materials to make different leather products. The ancient Mongolian nobles were very fond of using animal fur as raw materials for clothing, such as sables and otters. The clothing made of these precious furs not only has the function of preventing cold and keeping warm, but also makes people feel luxurious and extravagant. Among them, sable fur is the most It is popular, not only has thick fluff, but also is very soft, and the clothes made of it look very noble and elegant. The basic constituent elements of a pattern refer to the most basic units and elements that constitute a pattern and a pattern.

Different changes and combinations are carried out according to certain compositional forms to create rich and colorful patterns. Traditional Mongolian decorative patterns can be classified into the following categories according to their different expressions and symbolic meanings: Mongolian national costumes are the most eye-catching overall. The logo is a stand-up collar, horseshoe sleeves, and a side placket. The overall shape is characterized by long sleeves and a long placket. Men's robes highlight the strength and firmness of men's figures, while women's long skirts show the graceful figure of women. The distinctive "Zhaodege" is the wrestling costume of the Mongolian Naadam Conference, which is called Zhaodege in Mongolian. In ordinary life, Mongolians also like to use cowhide to make different leather products, such as horsewhips and saddles. Toad and so on. Because of the excellent properties of cowhide, the finished product is not only strong but also very durable.

There are rich textures on the surface of cowhide, which makes the leather bag pot made look extraordinarily simple. After the cowhide is processed into fragrant cowhide, the surface will appear smoother, and the texture will be thicker. Leather boots made of it as raw materials, etc. Items will be more aesthetically pleasing. Sheepskin is more delicate and softer. Mongolians often use it to make fur robes. This kind of fur robe can keep warm and is very comfortable to wear. In summer, it can effectively avoid sunlight and mosquito bites. Combination patterns: the shape of individual patterns may have similarities with other ethnic groups due to the common cultural content, but the combination patterns are the patterns with ethnic characteristics that the Mongolians are most proficient in using.

2. THE PROPOSED METHODOLOGY

2.1 Aesthetic Features of Mongolian Leather Products

Combination patterns usually use hooks to combine a variety of different individual patterns, such as the extension of the sausage pattern and the addition of curly grass or flower patterns and moiré patterns. According to specific needs, the head can be expanded to meet the needs of independent decoration. The combinations of combined patterns are varied and varied, expressing multiple symbolic meanings. Functional beauty is the beauty displayed by the function of

the product itself through its appearance. Mongolian leather products have rich functions and are of high quality. When used in the shape of leather products, they can reflect a strong functional beauty.

For example, the leather robes often worn by the Mongolian people, the cuffs are shrunk, and the collar is mostly vertical, which can well resist the wind and cold, especially suitable for horse riding, archery, and other sports. The collar and cuffs of the robe inlaid with animal fur are not only It can keep out the cold, and it also looks very beautiful, and has other practical functions. Mongolian traditional decorative patterns always follow the form of central axis symmetry to maintain symmetry and balance. No matter in the shape or decoration of leather products, symmetry is repeated repeatedly as the main form, continuous in two directions or in four directions. The graphics are based on the principle of strict order and symmetry. Whether it is a neat, dignified and very orderly fret pattern, or a continuous and circuitous, endless coiled intestine pattern, without exception, it maintains a kind of order and law, which is strict and neat without lacking in beauty. The Mongolian people are well-known as a nation that is good at singing and dancing. On the vast and distant pastures, you can often hear the long and honest Mongolian long tune or the melodious and long sound of the matouqin.

The Mongolian ancestors created many music forms and musical instruments with their own national characteristics, and these music and musical instruments have gradually become familiar to people. Mongolian folk music has a variety of forms of expression, which can be divided into two categories, namely folk songs and quyi. Folk songs include long and short tunes, and quyi includes Haolaibao, Mongolian Qinshu and Humai. The most well-known Mongolian national characteristic musical instrument is not the horse head, and the saddle toad, that is, the leather hanging on both sides of the horse's back, is an indispensable component of the saddle. Its main function is to prevent the horse's belly from being hit by the saddle pedals, and it can also effectively prevent the sweat from the horse from contaminating the clothes. In addition, it can also prevent the rider from inserting his feet deeply into the pedal opening to cause danger. The Mongolian quiver and bow bag have also been carefully designed. Not only are they convenient for holding bows and arrows, but they are also inlaid with metal rings, which can be hung on the leather belt very easily. Stronger and more convenient for use in war or hunting. The repetition and combination of traditional Mongolian patterns expresses its unique rhythm and rhythm on another level. The repeated two-square continuous or four-square continuous graphics and regular combinations form a new law. And new rhythms, thus forming a continuous large-scale pattern.

2.2 The artistic innovation and development of Mongolian leather technology applied to modern leather products.

The system is mainly used in architectural design, construction, manufacturing, installation, commissioning, and operation, and it is involved in office, contract, finance, equipment, materials, and planning, etc. It can play a close role in cooperation among various departments of construction engineering enterprises. The integration of information technology and construction project management is a comprehensive work, which needs to involve various links such as enterprise bidding, financial management, and quality supervision.

Information management uses modern computer technology to comprehensively analyze relevant data related to bidding, financial management, quality supervision and other links, and to obtain final treatment opinions. Information technology application and construction project management not only realize the collection and processing of internal information of enterprises, but also can dynamically analyze the external environment of enterprises. The information-based the problems of Mongolian national characteristic cultural tourism souvenirs are as follows: first, the product design lacks innovation consciousness, and the efforts to innovate are relatively low. Compared with the product types and styles that the author saw in the Mongolian ethnic characteristic cultural tourist souvenir market in Hohhot four years ago, the Mongolian ethnic characteristic cultural tourist souvenirs sold in the market today can be said to have not changed much, and it can even be said that they are the same as four years ago. same face. The vitality of commodity development is its continuous innovation, and the use of innovative new products to attract consumers to generate purchase demand. The production process is the most important aesthetic element in leather plastic arts.

If the material is the premise of modeling leather products, the craft is the skill and method of processing the material. According to relevant literature records, as early as the Xiongnu period, sewing technology had reached a relatively high level. A Xiongnu leather robe collected by the Inner Mongolia Museum strongly proves this point. Although the leather robe itself is plain, its sewing technique is extremely fine, which is not inferior to the modern Mongolian sewing technique at all. Moreover, in the Xiongnu period, the crafts of trimming and embroidery were relatively mature. Mongolian clothing made of leather includes leather robes, leather shoulders, leather hats, leather boots, leather pants and so on. Leather is also often used to make accessories and embellishments. Leather clothing is uniquely decorated with "Boku" patterns. Boku is a costume worn by Mongolian wrestlers. It has no sleeves, so the decoration of Boku is concentrated on the back of the trousers and jacket.

According to the purpose, the decoration of bokk must reflect the vigor and bravery of the wearer, so animal patterns that express the characteristics of bokkhand like animals and raptors are often used, such as lion patterns, cloud patterns, and water patterns are used in matching trousers. Xielong patterns are decorated on the edge of the trousers, and the back of the jacket is mostly patterned with the swastika pattern, and the Falun appears as the central pattern. The problems in the organization and management of the market for selling Mongolian ethnic characteristic cultural tourism souvenirs are as follows. It is the chaotic organization and management and the lack of unified store stall display standards.

In some tourist attractions, it is often seen that the sales stalls of tourist souvenirs are miscellaneously placed, lacking order. On the one hand, the chaotic and disorderly sales environment prevents tourists from getting a better understanding of the products. On the other hand, the uneven scale of the sales market without a unified image makes the products sold form a perception of cheap and poor quality in the minds of tourists to some extent. impression. As an extremely important part of Mongolian life, leather products are also the carrier of Mongolian aesthetic concepts. Traces of this consciousness can be seen in Mongolian leather products. For example, the

Eagle Crown, which was popular in the Mongolian and Yuan Dynasties, has a wide variety, including spires, domes, etc. Among the portraits of emperors collected in the Palace Museum in Beijing, the hats worn by Genghis Khan and Kublai Khan are all eagles. Crown, the appearance of the eagle crown is designed according to the image of the falcon on the grassland. The modern Mongolian people still retain the custom of wearing a hat, and its shape is mainly evolved from the eagle crown.

3. CONCLUSION

Mongolian leather utensils also have traces of this consciousness. Take the cow as an example. Because of its strength, it was worshiped by the Mongolian people in ancient Buryatia. Before they started fighting, they would use black bull hide to make war drums. Leather handicrafts are the carrier of Mongolian characteristic culture. The works communicate with the outside world through the aesthetic traditional cultural elements and express the national culture in the form of external shapes and patterns. Therefore, the innovation and development of leather crafts need to fully understand the national culture. Based on further expressing its unique national heritage, while retaining national characteristics, it forms a new design language and new shape style, inherits tradition and promotes national spirit, so that Mongolian traditional leather art has been greatly developed.

4. ACKNOWLEDGEMENT

Fund project: This article is a literary and artistic creation fund project of the Inner Mongolia Federation of Literary and Art Circles (special project for literary criticism). Project Name: "Research on the Current Situation and Subject of Inner Mongolia Folk Craft Creation——Taking Inner Mongolia Leather Art as an Example", No.: WCJJ—2022—YJ40

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 115 – 117, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1033

Discussion on the Development Opportunities and Challenges of E-Commerce in the Big Data Era

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Abstract: The advent of the era of big data has brought both opportunities and challenges to the development of e-commerce in my country. The application of big data can promote the marketing of e-commerce, which is conducive to personalized and accurate product promotion, and is conducive to mining the potential value of data. But at the same time, e-commerce also needs to identify and collect real and useful information from a large amount of data and analyze and process massive data. It focuses on the challenges that e-commerce companies face in terms of big data ownership, big data processing, and privacy protection. And put forward corresponding suggestions and strategies.

Keywords: Development Opportunities, Challenges, E-Commerce, Big Data

1. INTRODUCTION

Big data is another subversive technological change in the IT industry after cloud computing and the Internet of Things, which will have a huge impact on the development of e-commerce. Today, big data analysis has become a research hotspot in the e-commerce industry, and it is creating huge value in various ways. E-commerce will usher in great opportunities, but there are also many obstacles to overcome and more challenges to be met in the future. This is the era of big data, and the future competition is data competition. The big data processing we care about refers to the ability to quickly obtain valuable information from various data. On the one hand, extracting value from diverse data has the feature of value; on the other hand, high-speed and high efficiency in data acquisition, data transmission, data processing, etc., has the feature of fast processing (velocity). The "data" in the concept of big data refers to massive data with analyzable and quantifiable characteristics. The "big" in the concept of big data refers to the two characteristics of "volume" and "variety".

At present, the mainstream software tools for processing big data include the open-source Hadoop platform, programming models and methods, and the more advanced data processing platform Spark. What can people do in the era of big data? Big data is generated and exists in all walks of life. Although it is difficult to analyze and process, it is also possible to statistically analyze big data and apply the results through correlation techniques. For example: in the field of education, use big data to analyze the personality and hobbies of students, truly teach students in accordance with their aptitude, and improve the quality of teaching; apply big data analysis in the field of enterprise management, truly turn extensive management into fine management, improve efficiency and save expenses , and deal with the management problems brought about by the company in the development process.

Apply big data analysis in enterprise production to optimize various production and work processes to improve efficiency and benefits. The data that enterprises can analyze, and use is growing explosively. Through the collection, integration, and analysis of big data, enterprises can discover new business opportunities, create new value, and bring about big markets, big profits, and big development. Angel Knowledge Network, which specializes in research and content services, found in a survey conducted by North American retail managers from May to June 2012: 62% of retailers believe that in the field of e-commerce and multi-channel procurement, they can benefit from "big data". benefit the most, followed by marketing (60%), merchandise (44%) and supply chain (29%).

Therefore, for e-commerce companies, there are huge business opportunities in the era of big data. The precision of e-commerce marketing in the era of small data is limited, which not only wastes resources, but may also push invalid information to interfere with users, affect the consumption experience, lead to excessive inventory, excessive logistics costs, and fall into price wars in the fierce domestic market competition, self-development is limited. In the era of big data, personalized and accurate product recommendation has become a new direction for the development of e-commerce in the future. Big data provides sufficient nutrients and fertile ground for sustainable development for personalized business applications. The interactive trading platform of e-commerce itself has multiple functions, which can record data on user clicks, browsing, comments, favorites, purchases, and other behaviors.

2. THE PROPOSED METHODOLOGY

2.1 Opportunities brought by the era of big data to the development of e-commerce

Each enterprise stores the data involved in external affairs on the e-commerce platform, such as sales, procurement, supplier management, bidding, bidding, and other data. The platform is responsible for keeping these data and providing data support to ensure that all enterprises can smoothly work together through the data exchange system. The data exchange system is responsible for dynamically generating data in a uniform format in a specific data exchange task and transmitting, converting, writing, etc. In this way, the e-commerce platform and the data exchange system are organically combined. The competition in the field of big data technology will directly affect national security and the future, and the competitiveness at the national level will be partly reflected in the scale, activity, interpretation, and application of data owned by a country ability.

The United States has taken the lead in raising the application of big data from commercial behavior to national will: on March 29, 2012, the Obama administration of the United States invested 200 million U.S. dollars to launch the "Big Data Research and Development Program", proposing that "by collecting and processing huge and complex data information, gain knowledge and insights, enhance capabilities, accelerate the pace of innovation in science and engineering, strengthen U.S. homeland security, and transform education and learning." In our country, industries related to big data have just started, and will undoubtedly usher in good development opportunities. Customer structure, traffic, click rate, purchase cycle and interest will generate a large amount of data on the e-commerce platform. With the collection, integration and analysis of big data, e-commerce companies can accurately identify consumers' tastes and consumption intentions, actively provide them with personalized and accurate sales products and services and increase sales and profit margins.

In the field of e-commerce, Amazon is a worthy example. It provides intelligent shopping guides for users through personalized technology, which greatly improves user experience and sales performance. Big data has never been a free lunch. Big data is diverse and mixed with pros and cons, which poses a huge challenge to the collection and processing of data by e-commerce. With the advent of the big data boom, some new problems about big data emerge one after another, for example, it is mixed with false information, there is not much real and useful information, and false information will destroy the core information. Therefore, screening data during the collection process to ensure data quality is a key issue that e-commerce companies cannot ignore. Facing the tide of data, if it is not screened and screened, it will be difficult to ensure the integrity and objectivity of the data. Data analysis and integration based on this will inevitably be full of mistakes and lose its use value. The data itself is safe and the challenge of personal privacy leakage. In the flood of massive data, online conversations and online transactions are increasing, and their security threats are more serious. In the big data environment, through the in-depth analysis of user data, it is easy to understand user behavior and preferences, which will seriously lead to the leakage of business secrets and personal privacy of enterprises.

2.2 Challenges faced by e-commerce in the era of big data

For small and medium-sized e-commerce companies, the challenge of owning big data will become more prominent and severe. Therefore, in the face of this challenge, e-commerce companies should first realize the value of big data ideologically and attach great importance to data collection. Secondly, enterprises need to restructure their IT architecture, increase the carrying capacity of infrastructure, rent enough space, further strengthen investment and construction of informatization, and adapt to the requirements of the big data era. Che Pinjue, the pioneer of big data practice, mentioned in "Decisive Battle of Big Data" that the fault is the most serious problem we face.

Those who collect data don't know what those who use the data need to do, which is a major key to big data at present. Big data requires more proactive management and more innovation. For e-commerce companies, if the people at the front end of the website only know data such as clicks, but rarely pay attention to the commercial data at the back end; the staff who operate the transaction link at the back end of the website only know about selling things and rarely pay attention to the front end data, behavioral data and business data are not connected. Network bandwidth capability and challenges to data processing capabilities. Network bandwidth is a bottleneck, especially in the interconnection and intercommunication between various network access providers; in the era of big data, the network must have sufficient bandwidth support to ensure real-time data .

Data computing capability is another challenge when dealing with data floods. Distributed computing can solve some of these problems, but the deployment is relatively complicated. Submitted the special report "Planning the Digital Future" to Obama and Congress and raised the work of data collection and use to a strategic level. The first challenge of the report is the "data" issue, that is: "How to collect, store, maintain, manage, analyze, and share data that is growing exponentially is an important challenge we must face." In this way, website decision makers do not know the behavioral characteristics of the core user group of the website, nor do they know how to expand the scale of core users, nor do they know what links need to be cleared from the time a user logs in to the website until they leave. This e-commerce company is not far from closing. up.

However, many e-commerce companies today are playing the game of "coincidence" every day: recommend A's products today and remove A's products tomorrow; do low-price promotions today, and offline activities tomorrow. These changes in decision-making, without indication or good monitoring of the logical relationship between behavioral data and business models, are "by chance" with closed eyes. The process of extracting hidden and potentially useful information and knowledge from massive data is very complicated and requires repeated "removing the false and preserving the true". It usually goes through multiple steps such as business understanding, data understanding, data preparation, establishment of mining models, evaluation, and deployment. That is, before we start data analysis, we must understand the business needs, and clarify business goals and requirements according to the needs; the next step is to evaluate the existing data, and organize, clean up, integrate, and transform the original data. A series of data collection and analysis preprocessing work.

In the era of big data, Internet users' comments, pictures, videos, personal information, hobbies, transaction information, visited websites, etc. are all recorded by enterprises. Enterprises have mastered a large amount of consumer behavior data, integrate, and analyze big data, to discover new business opportunities and create new value. However, these data often contain real information of consumers, such as real name, home address, bank account number and other important real information during transactions on Taobao, which has gradually aroused our concerns about personal privacy. As Diebold, a famous American computer expert, said, in the information age, every data and every byte in a computer constitutes the flesh and blood of a privacy.

3. CONCLUSION

The era of big data has arrived, and the opportunities and challenges it brings to mankind are unprecedented. In some key industries and key areas, big data analysis and processing problems have emerged, such as the controversial 12306.cn Spring Festival ticketing system. Only by understanding big data in advance and meeting the challenges brought by it comprehensively and courageously can we not fall behind in the era of big data. E-commerce is about to enter a

competitive era in which data prospers and enterprises prosper, and data strengthens enterprises. Big data will become the new weapon of e-commerce, and whoever has big data and powerful processing capabilities for big data will have the weight to win and will eventually win the market.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 118 – 120, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1034

Analysis on the Development Path of Scientific Research Management Innovation in Higher Vocational Colleges in the New Era

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Abstract: Big data technology is the product of the rapid development of information technology, and various industries such as transportation and e-commerce have paid more attention to the application of information technology. Infiltrating it into scientific research management in universities can promote management innovation. This paper discusses the innovation strategy of scientific research management in universities under the background of big data, specifically analyzes the optimization path of scientific research management under the application of advanced technology and provides reference for scientific research management in universities. At present, universities must not only have strong competitiveness, but also must do a good job in economic management and the analysis of economic activities, to some extent, directly affects the production development and future development direction of colleges and universities. Based on this, the article conducts an in-depth analysis of the innovation of scientific research management in universities under the new situation from multiple angles and levels, to promote scientific research in universities to become an important driving force for modern economic development.

Keywords: Development Path, Scientific Research, Management Innovation, New Era

1. INTRODUCTION

Big data technology has obvious advantages in information storage and management. The maturity of Internet technology has a significant impact on the operation and management of all walks of life. Specific to the scientific research management of universities, it can be noticed that in the new era environment, scientific research management is developing in the direction of informatization, focusing on the sharing and arrangement of various information in the process of scientific research activities, and ensuring the effectiveness and rationality of management work. Provide guarantee for the advancement of scientific research activities in universities.

Scientific research management personnel are an important force in university management. The training and cultural level they receive directly affect their work efficiency and professional skills. To some extent, scientific research management personnel determine the effectiveness of university administrative management. In the development process of universities, scientific research management is a very important content, and it is an important way to improve the competitiveness and teaching quality of universities. For a long time, the survival and development of my country's colleges and universities have relied on mandatory plans, and the operating funds are also allocated by the state or financial departments. Corruption breeds.

Innovation must be supported by scientific research. Lu Xin, the former vice minister of the Ministry of Education, pointed out: Without high-level scientific research, it is impossible to have high-quality vocational education, it is impossible to cultivate high-quality technical and technical personnel, and it is impossible to support the economy. Transformation of development mode and adjustment and upgrading of industrial structure. Higher vocational education is one of the important types of higher education and an important level of vocational education. Scientific research innovation in higher vocational colleges, especially technological innovation, is crucial to leading the development of higher vocational colleges and improving the cultivation of high-tech talents. Upgrading and economic restructuring provide strategic support. Innovation must be supported by scientific research. Lu Xin, the former vice minister of the Ministry of Education, pointed out: Without high-level scientific research, it is impossible to have high-quality vocational education, it is impossible to cultivate high-quality technical and technical personnel, and it is impossible to support the economy. Transformation of development mode and adjustment and upgrading of industrial structure.

Higher vocational education is one of the important types of higher education and an important level of vocational education. Scientific research innovation in higher vocational colleges, especially technological innovation, is crucial to leading the development of higher vocational colleges and improving the cultivation of high-tech talents. Upgrading and economic restructuring provide strategic support. First, innovate the concept of scientific research management in colleges and universities, and form a scientific and systematic management. Driven by new management methods, the development of colleges and universities has higher and higher requirements for management. The traditional management model not only needs to consume a lot of manpower and material resources, but also cannot effectively improve the quality and efficiency of work. In the new era, science and technology are changing with each passing day, and new knowledge and new skills are constantly emerging. Scientific research management personnel are the center of universities, acting as a bridge for employees to communicate with each other, and responsible for the coordination and cooperation of the entire work.

International Journal of Science and Engineering Applications
Volume 12-Issue 06, 118 – 120, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1034

2. THE PROPOSED METHODOLOGY

2.1 Exploration of the innovation path of scientific research management in colleges and universities under the environment of big data

It has a very good effect on improving the practical teaching and technology research and development of teachers in higher vocational colleges. In recent years, with the emphasis on connotation construction in higher vocational colleges, the proportion of highly educated teachers such as postgraduates and doctoral students has continued to increase. Influence, the scientific research environment is not relaxed enough, and the platform and conditions conducive to the development of scientific research have not been established, which affects the progress and quality of the "double-qualified" team building in higher vocational colleges. Scientific research management needs to rely on information support to ensure the effectiveness of scientific research management in the case of information sharing and provide better services for the development of scientific research activities.

Therefore, in the process of scientific research management, colleges and universities need to pay attention to the perfect construction of scientific research management sharing platforms, to change the disadvantages of independent scientific research activities in the past, and to severely crack down on academic fraud in the exchange of scientific research information in colleges and universities. The survey shows that most colleges and universities currently participate in the construction of scientific research management information sharing platforms and transmit their own scientific research activity information to the system. Provide a reference for the direction of development. Establishing a scientific and reasonable salary system is also a respect for the value of talents. Universities are the center of scientific and technological innovation, and the focus of work should be shifted to the focus of "people-oriented and property rights". It is recognized that scientific research projects must be won through a fair and perfect competition platform. Universities should guide modern salary theory and formulate targeted the staff incentive system and management model should be developed, the relationship between managers and the production and construction of colleges and universities should be properly handled, and the salary of faculty and staff should be combined with actual performance to effectively mobilize the enthusiasm and initiative of employees and promote the healthy and stable development of colleges and universities.

The use and management of scientific research funds has the phenomenon of emphasizing hardware facilities and neglecting scientific research personnel. As the state attaches great importance to vocational education, research funds in higher vocational colleges continue to increase. However, due to restrictions on the use of funds by various scientific research management systems, a large amount of scientific research funds can only be used to purchase scientific research equipment, hold meetings, and reimburse research groups. Transportation and travel, etc., and labor costs for mobilizing the enthusiasm and initiative of scientific researchers are difficult to pay. Especially for researchers in the humanities and social sciences, their research does not require any major scientific research equipment, but more creativity and thinking that requires years of professional knowledge accumulation and precipitation. Under the above-mentioned management mode, the individualization of scientific research management is emphasized, starting from the relevant information of various scientific research activities, timely discovering the key points of management in research activities, and ensuring that the management methods meet the needs of scientific research activities.

2.2 Analysis of Effective Ways and Suggestions for Strengthening Scientific Research Management in Colleges and Universities in the New Era

At present, in the implementation process of scientific research management in most universities, special management personnel will be arranged for various scientific research activities to collect, organize, and record project operation information, so as to ensure that the whole process of scientific research activities is under supervision and improve the level of scientific research management services , to provide basic conditions for the enhancement of scientific research strength of colleges and universities. Strengthen the construction of scientific research management team and build an innovative scientific research management team. With the continuous development of society and the rapid development of economy, the development of colleges and universities has become a long-term worldwide topic. Colleges and universities are facing a critical period of structural transformation, especially for key colleges and universities. Under the new economic normal, economic structure and the market environment has undergone tremendous changes. As an indispensable part, scientific research management personnel play an increasingly prominent role in the development of universities and play a vital role in the healthy development of universities. The level of scientific research management focuses on software improvement and neglects the quality improvement of scientific research management personnel.

The scientific research management department first pays attention to the purchase and improvement of the scientific research management system, but pays less attention to the service awareness, professionalism, knowledge ability level, and management level of the scientific research management personnel, and does not consider the development of the scientific research management personnel in depth. buildup. To achieve a better scientific research management effect, managers need to actively participate in scientific research management, discover deficiencies in scientific research activities in a timely manner, and provide scientific suggestions for the improvement and optimization of scientific research planning. For example, in the big data environment, colleges and universities have increased the construction of scientific research information sharing platforms and arranged specialized personnel to participate in system operation and maintenance to ensure the quality of system operation. At the same time, a special channel has been established for the communication of scientific research management documents and indicators, so that relevant personnel can inquire about scientific research management information. In the big data environment, it is required to change the scientific research management model, and to encourage all employees to participate in scientific research management through an open management platform, to continuously improve the management level.

Human resource managers must establish and improve the enterprise talent guarantee and incentive mechanism, listen carefully to the suggestions and ideas of the employees themselves, and then give correct guidance and demonstration

according to the actual situation of the employees. Regardless of actively participating in the management of colleges and universities, or through learning or training, it can be used to make the faculty and staff more excellent. Both managers and staff must keep up with the development of the times, learn and master more information technology and related Information knowledge, and it is necessary to analyze and match each link of university management, education, and evaluation, to find a correct path suitable for its own development, to have a clear method for its own future development direction, and to promote university information management. The rapid economic development promotes the sustainable development of colleges and universities. Scientific research evaluation emphasizes quantity over quality, scientific research projects focus on project establishment rather than problem conclusion, results over process, and grades of results over transformation and use.

3. CONCLUSION

To sum up, in the era of big data, new opportunities are provided for the reform of scientific research management in universities. By providing scientific research management services, it can ensure the smooth development of scientific research activities in universities. Under the new management model, scientific research management information is shared, and the level of management services is higher. Scientific research managers can use big data technology to mine the development information of scientific research projects from scientific research project supervision to provide information support for management strategies, and then play a role in scientific research. The role of management in the efficient development of scientific research in universities.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 121 – 124, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1035

Computer-Aided Analysis of Related Factors in Patients with Parkinson's Disease and Osteoporosis under the Background of the Internet

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Abstract:This article is based on the computer-assisted analysis technology under the background of the Internet to explore the related risk factors for the occurrence of elderly Parkinson's disease with osteoporosis. 996 patients with Parkinson's disease were selected and divided into 282 cases in the osteoporosis group and 714 cases in the non-osteoporosis group according to the results of bone density examination. Correlation of metabolic characteristics. Results The age, female, and body mass index of the osteoporosis group were significantly higher than those of the non-osteoporosis group, and the bone density was significantly lower than that of the non-osteoporosis group. The difference was statistically significant (P<0.01).

Keywords: Parkinson's Disease, Osteoporosis, Computer-Aided Analysis, Related Factors

1. INTRODUCTION

The impact of Parkinson's disease on patients is multi-faceted. It can not only cause motor symptoms, but also be the culprit of many non-motor symptoms. Osteoporosis is a common disease in the elderly, a systemic metabolic skeletal disease mainly characterized by susceptibility to fractures, is more common after the age of 60. The main manifestations are shaking, stiffness and slowness, so Parkinson's patients are prone to falls and fractures. Studies have shown that this phenomenon is not only related to the stiffness of the patient's posture and slow movement, but also to the occurrence of osteoporosis in the patient. Parkinson's disease, also known as tremor palsy, is a neurodegenerative disease more common in the elderly > 60 years old. With the aging process of the population, the incidence of the disease is increasing year by year. The impact of Parkinson's disease on patients is multi-faceted. It can not only cause motor symptoms [1-6].

but also be the culprit of many non-motor symptoms. From 2009 to 2011, 60 Studies have shown that people with Parkinson's disease are more prone to osteoporosis, aged between 60 and 65 years old, with simple Parkinson's disease, the symptoms were relatively average, the course of disease was 5-10 years, and there were mild to moderate activity disorders. . Its main clinical manifestations are bradykinesia, muscle rigidity, postural disturbance, etc. . PD disease is mainly due to the decrease in the synthesis of dopamine by the substantia nigra cells of the brain, resulting in a dopamine-acetylcholine imbalance, which is manifested by the excitatory effect of acetylcholine. At present, the most commonly used drugs for the treatment of PD include amantadine, antan, levodopa, madopa (a compound of levodopa and benserazide) and so on. The main complication of PD disease is easy to fall, and the elderly have low bone mass or even osteoporosis, and fractures are prone to occur after falling, which seriously affects the physical and mental health of patients. And there are a lot of literature reports that the proportion of PD patients suffering from osteoporosis is higher than that of the same age and same sex. The existing literature reports that Madopa can treat the delayed healing of fractures, but there are few reports about the effect of Parkinson's disease (Parkinson's disease), also known as "paralysis tremor", is more common after the age of 60. The main manifestations are shaking, stiffness and slowness, so Parkinson's patients are prone to falls and fractures. The study believes that this phenomenon is related to the rigidity of the patient's posture and slowness of movement. Parkinson's patients are a high-risk group of fractures, especially femoral neck fractures. Once a femoral neck fracture occurs, the patient's mortality, disability rate and medical expenses will be significantly increased. Although fractures are closely related to patients' postural balance disorders, Osteoporosis is often manifested as a decrease in bone strength and an increased incidence of fractures patients is highly correlated with fractures [7-14].

A comparison of the fracture rate of the femoral neck of 52 which has a very negative impact on the patient's quality of life. Parkinson's patients are at high risk for fractures, especially femoral neck fractures. Patients and their families voluntarily participated in this study and signed an informed consent. Exclusion criteria: (1) patients with osteoporosis in the past; (2) mental disorders, mental retardation or serious physical diseases. on the relationship between Parkinson's disease and osteoporosis, and some scholars even claim that Parkinson's disease is an important cause of secondary osteoporosis. No bed rest, dysphagia, no serious complications. One of the hormones most closely related to human bone metabolism. It is mainly mediated by Vitamin D Receptor (VDR) to play its role in regulating calcium and phosphorus metabolism. It promotes the proliferation of osteoblasts and enhances osteoblasts. Its activity promotes bone formation, which is of great significance in osteoporosis, fractures and other aspects of PD patients [15-21].

patients with impaired consciousness, vision and hearing impairments who cannot cooperate. , VitD also participates in a variety of biological pathways. As research continues to deepen, more and more evidence shows that VitD plays an important role in PD. Exclude the possibility of osteoporosis caused by other drugs, and exclude rheumatoid rheumatoid

and other diseases that may cause osteoporosis. The control group randomly selected 40 healthy people to participate in the physical examination. , is one of the main reasons for the deterioration of the quality of life of the elderly, disability and death. [22-24]

2. THE PROPOSED METHODOLOGY

2.1 The Parkinson's Syndrome

This phenomenon is in addition to being associated with bradykinesia and postural stiffness. Osteoporosis is often manifested as a decrease in bone strength and an increased incidence of fractures, Foreign studies believe that bone changes and abnormal bone calcium metabolism are common in Parkinson's patients detected, and the bilateral radius was taken as the detection site, and the average value was taken.

The incidence rateOsteoporosis (OP) is a systemic metabolic skeletal disease characterized by decreased was calculated with T<-2.5 as the standard. At the same time, the bone mineral density results of the healthy physical examination population were collected and the incidence of osteoporosis was calculated. , and also bone mass and degeneration of bone microstructure, resulting in increased bone fragility and susceptibility to fractures. Once a femoral neck fracture occurs, the patient's mortality, especially femoral neck fractures. Once femoral neck fractures occur, the patient's mortality, disability rate and medical expenses will increase significantly. morbidity and medical costs will increase significantly. Although the fracture is closely were divided into two groups according to those with osteoporosis and those without osteoporosis..

The decrease in bone density itself is related to the patient's postural balance disorder. Bone mineral density was detected by dual-energy X-ray absorptiometry in all patients not only have a decrease in bone density, but also a decrease in bone density and Par The H-Y (Hoehn-Yahr) grading of Kinsen's disease is related. The higher the grade, the more obvious the decrease in bone density, he average value of the bilateral radius, femoral neck and lumbar spine (L2-4) was taken as the detection site.

2.2 The Factors of Osteoporosis in Parkinson's Disease

The fasting venous blood was collected to separate the serum and stored at -20°C, and the serum VD3 level was detected by ELISA method (VD3 kit was purchased from Shanghai Shireke Biotechnology Co., Ltd.). Co., Ltd. The purpose of this study was to investigate the incidence of osteoporosis in Parkinson's patients and the relationship between osteoporosis and vitamin D metabolism. Parkinson's disease are more likely to suffer from osteoporosis. This study analyzed the comparison of femoral neck fracture rates in 52 Parkinson's patients and 5,943 sex , and provided a basis for early clinical intervention. Although fractures are closely related to patients There is a close relationship with postural balance disorde age-matched controls found that Parkinson's patients had significantly higher rates of fractures and falls is highly correlated with fractures. (Finland Thermo automatic microplate reader detection) inter-assay CV 5.6%, sensitivity 2.5nmol/ L, normal reference value: 47~300nmol/L, studies have shown that the number of osteoporosis patients in my country will increase to nearly 300 million in 2020, accounting for about 300 million people. More than half of the world's osteoporosis patients.

The blood levels of 25-hydroxyvitamin D3 were compared between the two groups. Methods All patients were detected even after adjusting for fractures caused by falls in Parkinson's patients. factor, and the average value of bilateral radius, femoral neck and lumbar spine (L2-4) was taken at the detection site. A comparison of femoral neck fracture rates in 52 Comparison of bone metabolism markers between osteoporosis group found that Parkinson's patients had significantly higher rates of fractures and falls. High blood calcium inhibits the secretion of parathyroid hormone (parathy roidhormone, PTH), thereby reducing the production of 1,25-[OH] 2D3. A series of reactions eventually cause a decrease in bone density, leading to bone the occurrence of osteoporosis, that is, the reduction of limb activity in Parkinson's patients is correlated with the reducti.And there was statistical significance ($P < 0.05$), and the difference between men and women was considered to be and non-osteoporosis group with different HY-Y grades of Parkinson's disease. with osteoporosis and human factors and vascular risk factors. Even after adjusting for fractures caused by falls, Parkinson's patients had higher fracture rates than controls. PD patients are more likely to suffer from osteoporosis than the elderly at the same age, and the reason for osteoporosis in PD patients may be related to vitamin D metabolism. 5 ml During the hospitalization of the patients, the bone mineral density was detected to detect bone metabolism markers parathyroid hormone, osteocalcin, serum calcitonin and vitamin D. Correlation between the occurrence of Kinson's disease with osteoporosis and serum bone metabolism markers.

the bilateral radius was taken as the detection site, and the average value was taken. H-Y (Hoehn-Yahr) classification of Parkinson's disease. Vitamin D, also known as cholecalciferol, is produced from 7-dehydroxycholesterol in the skin by exposure to ultraviolet light. Ergocalciferol or vitamin D2 is obtained by irradiating a plant sterol, ergosterol, with ultraviolet light as a vitamin D supplement. The incidence rate of osteoporosis in patients with Parkinson's disease was calculated with T<-2.5 as the standard. is produced by the skin. Vitamin D itself has no biological activity.

2.3 The Computer-Aided Analysis Of Osteoporosis Patients With Parkinson's Disease

Parkinson's disease conformed to the "2016 Chinese Parkinson's Disease Diagnostic Criteria" [5]. Corrected Parkinson's disease H-Y classification. H-Y1 grade: only unilateral disease; H-Y2: bilateral mild disease; H-Y3: bilateral disease with early postural stability impairment; a 2008 study in North America also found that Parkinson's patients and controls In contrast, the decrease in bone mineral density was statistically significant.

Abou-Raya and was highly correlated with age, body mass index (BMI), and disease severity. It must first be converted into 25-hydroxyvitamin D3 by the action of 25-hydroxylase in the liver, and further undergo 1-position hydroxylation in the kidney to convert it into At the same time, the bone mineral density., which has the highest biological activity. The pathophysiological mechanism of osteoporosis is an imbalance of bone turnover. : Severe disease requiring assistance; H-Y 5: Confined to bed or wheelchair unless assistance is available. To sum up, osteoporosis results of the healthy physical examination population were collected and the incidence of osteoporosis was calculated. However, it is often underdiagnosed.

Osteoporosis indirectly leads to the occurrence of fractures, which further aggravates the condition. Therefore, as a

neurologist, we must be soberly aware that once a patient is diagnosed with Parkinson's disease, he should routinely test the bone density, especially the femoral neck, so as to ensure that the patient has Parkinson's disease. have a comprehensive understanding of the osteoporosis situation and assess the patient's risk of future fracturesType I procollagen amino terminal propeptide (PINP) is an intermediate product when osteoblasts synthesize collagen, which mainly reflects the synthesis rate of type I procollagen and bone transformation rate. Studies have shown that PINP is relatively stable in the blood circulation and has a good correlation with other indicators. t is necessary to encourage patients to exercise properly, engage in more outdoor activities to increase the time of "sunbathing", and pay attention to improving the nutritional status of patients, supplementing sufficient calcium and vitamin D. At the same time, the patient's family members should take careful care to minimize which indicates that fractures in Parkinson's patients are closely related to decreased bone mineral density.

3. CONCLUSIONS

Osteoporosis indirectly leads to the occurrence of fractures and further aggravates the condition. Therefore, as a neurologist, we must be soberly aware that once a patient is diagnosed with only a quarter of vertebral fractures caused by falls, and the rate of vertebral fractures in Parkinson's patients is much higher than in the control group., especially the femoral neck, should be routinely tested, so that the patient Have a comprehensive understanding of the osteoporosis situation and assess the patient’s risk of fracture in the future.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 125 – 127, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1036

Research and Development of Scientific Research Management Information System in Higher Vocational Colleges Based on Distributed Block Technology

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Abstract:This paper is based on the distributed block platform to develop a management information system suitable for the scientific research management needs of higher vocational colleges. This system will become an information platform for the daily work of the scientific research management department, an information platform for the faculty of the college to conduct scientific research work and scientific research achievement management, and an information platform for academic management, professional leaders, and young and middle-aged backbone teachers. Informatization, networking of school teachers' information resource management, and office automation of some businesses in teaching and personnel management.

Keywords: Management Information System, Higher Vocational Colleges, Distributed Block, Scientific Research

1. INTRODUCTION

The scientific research management of the college is basically in a manual state, and the scientific research management staff use Word, Excel and other office software to process a large number of scientific research management data and forms. In recent years, with the continuous increase in business volume, the management work in this area has become increasingly arduous, and the management efficiency and quality are relatively low. In order to comprehensively improve the level of scientific research management of the college, the academic affairs and scientific research department of the college put forward the requirements and jointly developed the scientific research management information system with the college information center to improve the scientific research management level of the college through informatization [1-6].

With the rapid development of modern information technology and the popularization and application of blockchain technology, the informatization construction of higher vocational college libraries has entered a new stage, and it has become an important symbol of measuring the modern development of higher vocational colleges. In October 2016, the Ministry of Industry and Information Technology of my country issued the first guidance document on blockchain, the "White Paper on China's Blockchain Technology and Application Development". In December 2016, the State Council issued the "Notice on National Informatization Standards for the 13th Five-Year Plan", which clearly pointed out the need to "strengthen the advanced layout of strategic frontier technologies", including "artificial intelligence" and "big data cognitive analysis". Blockchain" and so on. In July 2017, the State Council's "Notice on Issuing a New Generation of Artificial Intelligence Development Plan" proposed to "promote the integration of blockchain technology and artificial intelligence and establish a new social credit system." [7-14]

In August 2017, the State Council's "Guiding Opinions on Further Expanding and Upgrading Information Consumption and Continuously Unleashing the Potential of Domestic Demand" proposed "to carry out pilot applications based on new technologies such as blockchain and artificial intelligence." This system is based on Microsoft's latest software development platform .NET, and based on our institute's scientific research management work, we develop a management information system suitable for the scientific research management needs of higher vocational colleges. The system is developed and operated based on the WEB model to provide an information management platform for scientific research management personnel; to provide college leaders with scientific research information and statistical decision-making information; to provide middle-level cadres with departmental scientific research statistical information; to manage their own scientific research results for all faculty and staff Provide an information platform; provide an information platform for college management academics, professional leaders and young backbone teachers. In today's society, learning and education have become the focus of attention of all mankind. The development of the network provides a good basic platform for the construction of campus informatization. The campus information management system based on the .NET architecture has strong openness and scalability, and can easily provide more and more abundant information services for campus informatization. Realize various managements of colleges and universities by means of informatization management. One of the key contents of college management is the management of teachers. For a long time, some higher vocational colleges have not had a set of teacher information management system (abbreviated as TIMS) that is completely suitable for them. Teacher information management is still in the scattered and random management stage. The college office, personnel department, academic affairs department, etc. To master a set of relevant information of college teachers, the information between various departments is relatively scattered and chaotic, and data is transmitted manually, which cannot achieve good data sharing, and cannot meet the increasing requirements for teacher information resource management in higher vocational colleges [15-21].

In order to establish a "people-oriented" management model in higher vocational colleges, and to facilitate managers, users and teachers themselves to update, use and manage teacher information, the research and development of the TIMS system in higher vocational colleges based on .NET has important practical significance [22-24].

2. THE PROPOSED METHODOLOGY

2.1 The Distributed Block Technology

Blockchain has four characteristics. The first is the decentralization of the blockchain. As an accounting system, the blockchain has equal rights of each node in the entire network, and the rights and obligations between nodes are equal. Data is stored in a distributed manner. Each node can participate in the verification process of the data block with a password. The academic principle is that the consensus algorithm is used for transactions. No third party is required. Any transaction can be directly used for payment transactions. There is no centralized hardware or organization in the entire network. The second is the trustless feature of blockchain.

The trust in the blockchain system is not completed by a third party to determine the supervision and control. All nodes exercise self-restraint through algorithms, because each participant agrees with the consensus mechanism. Any node will reject and suppress malicious deception of the system. The operating rules and data content in the system are open and transparent, and the data exchange between nodes does not require mutual trust. Scientific research results mainly include scientific research projects, papers (published/collected), works, patents, variety identification, identification results, award-winning results, software systems, works and other scientific research results that have been completed. Through this subsystem, teachers can report their own various scientific research achievements annually, which are reviewed by the scientific research management department. The scientific research results that have passed the review can be automatically calculated by the system's scoring management subsystem according to the college's scientific research scoring management methods. If it fails to pass the review, make suggestions for modification or delete. The .NET framework makes it easier to develop, release, and integrate with other network systems for the next generation of application software.

For users, .NET Framework makes their machines more stable and easy to use, and can be easily connected to other systems. For developers, the .NET Framework simplifies the development of Windows software, it provides a single method to establish C/S and B/S architecture styles, and allows developers to use the same tools and technologies to develop for various devices software. Moreover, software built on .NET Framework is easier to develop and maintain than traditional software, and developers can easily upgrade the software to the latest version automatically. This is determined by the system mechanism itself. In the blockchain system, after the transaction information and data are entered into the system, no one can modify it, including internal staff.

2.2 The Scientific Research Management in Higher Vocational Colleges

This system adopts ASP.NET three-tier system structure: presentation layer, business logic layer and data access layer, as shown in Figure 2. ASP.NET is an Internet programming technology launched by Microsoft Corporation. It uses an efficient, object-oriented method to create dynamic Web applications. The rapid development of modern information technology promotes profound changes in the service and management methods of libraries in higher vocational colleges. The application and development of blockchain technology has brought new opportunities and challenges to the construction of smart libraries. Management and service are important indicators for the assessment and evaluation of the library, and also an important content that reflects the overall development level of the library.

Different eras have different standards and requirements. School management information system is the specific application of management information system (MIS) theory and technology in the field of education. Therefore, it follows the general rules of MIS. On the other hand, the object of school management information system processing is all kinds of information in the school management process. What is executed is the various management affairs of the school, which in turn determines the particularity of the system. The division of the functional modules of the school's management information system varies with the school's category, scale, management system, and institutional settings. The general school management information system designs functional modules from the overall situation of a school, mainly including: teaching management information subsystem, student management information subsystem, personnel management information subsystem, scientific research management information subsystem, financial management information subsystem, public The service system management subsystem, logistics management information subsystem, and asset management information subsystem are composed of several information management modules. There are not many management information systems for secondary colleges or departments. Moreover, the current general department management information system There are the following shortcomings: the purpose of higher vocational college libraries is to improve the management level, improve the service quality, and adapt to the development needs of modern vocational colleges.

2.3 The Scientific Research Management Information System of Higher Vocational Colleges

Higher vocational education is an important part of higher education in our country. The country attaches great importance to its development. However, due to its late start, the higher vocational education model and management method suitable for our country are still being studied and explored. At present, his institution setting and management model. The management method is still very different from that of ordinary universities, and the basic functions of each institution are somewhat different from those of universities. At present, there is no higher vocational education that can develop a set of management information system based on the characteristics and management mode of higher vocational education, let alone a set of department management information system for higher vocational colleges.

Improving their management's informatization, scientification, standardization and management is to improve the quality of higher vocational teaching, and to train tens of millions of high-tech applied professionals who serve the production, construction, management, and service lines. Very important role. With the continuous expansion of the scale of higher vocational education, improving the efficiency and quality of running schools, reducing the costs and expenses of running schools, and improving work efficiency, there is an urgent need for a management information system to assist them in scientific and standardized management. The main function of the designed transaction reminder is: when the user logs in to the system, the system will automatically search from the recent transaction data table. If there is a transaction related to the logged-in user, a message box will pop up to remind the user of the transaction that should be handled in the near

future. The Computer and Management Engineering Department of Xi'an Aeronautical Vocational and Technical College has 5 departments, including: Department Office (Department Management), Software Technology Teaching and Research Office, Computer Network Teaching and Research Office, E-commerce Teaching and Research Office, and Computer Information Management Teaching and Research Office, with a total of 41 faculty members. There are more than 1,900 students in school.

Since there are not many teachers in this department, the system can remind specific teachers for each task, and student-related affairs are generally collective, so relevant student affairs will be prompted as long as they log in to the system as a "student". The scientific research management system is open to off-campus users.

3. CONCLUSIONS

This article discusses the .NET framework and related technologies, and describes the design principle, overall structure and function realization process of a TIMS system based on the combination of ASP.NET, ADO.NET and SQL Server 2000. The TIMS system developed in this paper has been installed, deployed, and initially applied in Suzhou Vocational and Technical College, and has achieved good results. The integration of the scientific research management system and the collaborative office platform has laid a good foundation for the college to build a unified application information platform and data center.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 128 – 131, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1037

Optimizing the Design of a Computerized Accounting System for the Campus Network Based on MANT and Communication Architecture

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Abstract:This article combines the development and application status of financial computerization in colleges and universities, and introduces the design and implementation of Nanjing University of Aeronautics and Astronautics' financial database application system based on the browser/server model. Using MANT and communication architecture to optimize the development of software and ADO application program interface technology, to carry out statistical analysis and processing of corporate financial data, to achieve the basic requirements of corporate financial processing: user login, credential processing, cashier, system settings, etc. In addition, this article also developed related digital algorithms.

Keywords: Communication Architecture, Computerized Accounting System, Campus Network, MANT

1. INTRODUCTION

Computerized accounting is to transform the traditional manual accounting information system into a man-machine integrated accounting information system, replacing manual accounting [1], repayment, analysis and use of accounting information with complete accounting software resources, to a large extent this reduces the workload of accountants, improves the efficiency of staff [2], and ensures the high quality and standardization of work. With the use of computers and other financial software in the accounting industry, the computerized accounting system will lead the accounting industry to a new peak [3], become the main tool of accounting calculations today, and have a good role in promoting the operating concept of the accounting industry. With the rapid development of information technology today, various technical means are constantly being used in daily business activities [4]. With the increasing frequency of funding activities in colleges and universities, the computerized accounting system of colleges and universities has become an indispensable part of the management of funds in colleges and universities [5].

Since the 1980s, the computerized accounting system of colleges and universities has gone through a process from nothing to something [6], from simple to complex, and has gradually matured in this process. Since the computerized accounting system masters and controls the financial platform on which the operation of universities depends, it plays a pivotal role [7]. With the continuous development of /0123021//0134021/56134021 technology, especially the 728-based information publishing and retrieval technology, 94:4 cross-network operating system computing technology and) [8]. The organic combination of network distributed object technology has led to the whole the architecture of the application system develops from the client/server model to the browser/server model [9]. The browser/server structure combines the centralized processing mode and the distributed collaborative processing mode of the client/server architecture [10].

Computerized accounting has become an important course of accounting. Since this course involves computer technology, network communication technology, accounting principles and practices [11], optimization technology, computerized management, software engineering and other disciplines, so in the learning process [12], it is generally felt that the various modules of the accounting computerized system (including accounting [13] the principles and methods of analysis and design of business processing, financial statements, raw materials and sales profit accounting, fixed asset management, cost accounting [14], salary accounting, computer auditing, financial analysis, etc.) are very abstract, difficult to understand, and students have a relatively good ability to use database programming [15]. Difference. The development of information technology has greatly promoted the development of enterprises and provided a competitive advantage for enterprises to achieve increased profits. The influence of information technology [16] is related to the essence of information, and the development of accounting information in this process is no exception [17]. The development of e-commerce has greatly affected the content of cross-border transactions. For this reason [18], it is of great significance for enterprises to transform and develop accounting systems.

At the same time, online system processing technology has also been produced accordingly. For this reason, for small and medium-sized enterprises [19], the use of computer-based accounting computerization systems is an important and possibly decisive factor for their survival and success [20]. The reason is that SMEs need to improve the quality and price competitiveness of products and services to compete with large enterprises [21]. To this end, SMEs will need more information because they are exposed to a more uncertain environment than large companies. Financial or non-financial information is one of the key factors for success in the global economic era [22]. In order to be able to compete successfully, an SME needs an information system to enable it to make more timely and informed decisions. The enterprise accounting system is a very complex system engineering. When it is put into use in the enterprise, it mainly uses the entire process of accounting computerization. When the system project is implemented [23], the entire accounting computerization work process should be designed first, and the accounting information and management system should be

established on the basis of completing this task, and the accounting personnel training and division of labor should be established and implemented [24]. Various systems and other content, in order to ensure the correct and smooth operation of corporate accounting computerization, it is necessary to establish new systems engineering methods and principles.

2. THE PROPOSED METHODOLOGY

2.1 The MANT

There is no doubt that time information is an essential component of video signals when performing various video processing. Time information also plays an irreplaceable role in the perception of external things by the HVS system. Therefore, this paper proposes a method for solving the JND value in the time domain based on video motion, by solving the difference of the internal frames of the reconstructed video sequence as the characteristic parameter of the video signal in the time domain. The foreground sparse residual matrix F can be used to represent the motion intensity of foreground objects. The residual value in the sparse residual matrix has a positive correlation with the probability that it belongs to the foreground moving object. The larger the residual value in the sparse residual matrix, the more it belongs to the foreground. The higher the probability of a moving target. In the test, the HPLC network is tested by connecting to the user-side energy-consuming equipment. The smart gateway and container are deployed and started.

The test results show that the network management is all normal. The online test of the tail end is shown in Figure 5-8. The record shows that the tail end is online, and the surface HPLC network test is successful. In the test, the HPLC network is tested by connecting to the user-side energy-consuming equipment. The smart gateway and container are deployed and started. The test results show that the network management is all normal. The online test of the tail end is shown in Figure 5-8. The record shows that the tail end is online, and the surface HPLC network test is successful. Next, check the changes of its gateway data, and see whether the gateway data can be changed in time through the energy changes of the air conditioner and lighting where the application is located.

Considering the planning and arrangement of site business activities such as business activity time, and based on the load forecast model, predict the user's cooling load demand, determine the total number of chillers and pumps that are turned on, and set the automatic start and stop parameters of the units and pumps to realize the change of the units and pumps with the load. Automatic start and stop control; real-time collection of supply and return water temperature, flow, host power.

2.2 The Communication Architecture Optimization

For the communication in the organization, due to the different roles of the elements in the organization, there are three types of communication: the communication between the decision-making entity DM-DM, the communication between the platform P-P, and the communication between the decision-making entity and the platform DM-P. The most important communication is the necessary communication between the decision-making entity DM brought about by the task. In this paper, the set of decision-making entities is denoted as DM={DM. 1mr----1,2,...,M), where M is the number of organizational decision-making entities. When there are many requests at the same time, the process squeezes system resources, and the efficiency is low. This improvement is made. Using DFF (Dynamic Link Library) technology, threads are used instead of processes to improve performance and speed, but the synchronization of threads must be considered, and the development steps are cumbersome. Both of these two technologies have a common problem, that is, the development is difficult. Program development and GF writing are two completely different processes.

And (active server page) is a brand new 728 application development technology launched by GIH3ACAK1, which is a server-side script execution environment. The optimization of the communication structure mainly considers two points: one is the cost of constructing the communication structure, and the other is the performance of the communication structure. em ACE is the cooling temperature, and 0 is the untested data of the gateway. The grayscale change saliency map of local enhancement is shown in Figure 3-4 b). Compared with the local enhancement frame difference saliency map in the previous chapter in Figure 3-4 c), the reliability of the network is obtained, and the link capacity is optimized according to the constraints of routing and delay to calculate the network cost. Based on the evaluation of reliability and cost values, new routes are selected and cross-mutated to generate new routes. Based on the assumption of full connectivity, all routes generated by cross-mutation will be iterated as good individuals of the next generation. When the genetic iteration reaches the termination condition, the best routing individual is obtained, and then the network topology and link capacity are obtained.

The optimization algorithm flow based on genetic algorithm design T the grayscale change saliency map is for the palm and the palm of the hand. Nearby regions are assigned higher saliency values, while upper arms have lower saliency values, as the motion of the palm region is more representative of the action of "clapping hands", the higher the quality of service. We use VISUALFOXPRO to design, divided into two subsystems: accounting computerized course training subsystem and accounting computerized examination subsystem. The training subsystem adopts an integrated method, and redesigns the first four functions.

2.3 The Design of Computerized Accounting System for Campus

The main feature of ASP is that it can organically combine GF, script components, etc. to form an application that can run on the server, and transfer the standard +GF pages specially made as required to the client browser. The examination subsystem is to simplify the training subsystem for easy paperless examinations and scoring, especially the code of the questions and the coverage of related accounting computerization issues. The outline is considered in detail. The accounting computerization practice part is simplified. The proportion of account subjects and balances, and a few typical business data in a month accounted for about 10% of the subjective question design.

The computerized accounting system of an enterprise mainly includes five modules in the process of designing: system setting, voucher management, bookkeeping and checkout, printing output, and system maintenance. The contents of the five modules each have a unique design function. The main function of the system setting is to apply in some initial stages of setting work, including the design of subjects, voucher types, and account books. In addition, you can also add the beginning balance and so on. The voucher management module is mainly designed based on the basic content of

accounting work, which can increase or decrease voucher, query and modify it. The main functions of the bookkeeping and checkout function module include the enterprise's registered account books and inquiries. The printout includes the management of the security work related to accountants. The other is the system maintenance function module, which is mainly aimed at the management personnel of the financial accounting system in the enterprise. Be able to perform data information maintenance, backup and recovery. First of all, it is the advanced means of financial management software. Other financial management information is gradually replaced by it. It can comprehensively and quickly reflect the financial operation of the enterprise and the operating efficiency of the enterprise. The scope of other information systems is limited to individual enterprises. Secondly, its account settings are very standardized, and the coding between the various levels of the system is also very standardized, which is not required in other systems. Third, it is a bridge for information transmission between organizations in the enterprise financial management system.

3. CONCLUSIONS

The application software adopting the browser/server architecture, due to the unified application interface, makes the user end only need a browser software, which is simple and convenient to use, and the financial software application is developing towards the browser/server model. We have made some explorations and studies on the research and development of financial computerized software based on the browser/server model, hoping to provide a certain reference value for the development and research of similar applications.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 132 – 134, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1038

The Upgrade Path Based on the Transformation of the New Retail Model of the Decentralized Data Center in the Mobile Internet Era

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Abstract:As a breakthrough point in the development of new retail models, blockchain will be supported by data to open up the value circulation channels of various platforms and merchants under new retail, and combine social trust on the basis of "decentralization" to create a new retail driven by quality Development Environment. In order to ensure the formation and sustainable development of the regional new retail model guided by the blockchain concept, safeguard measures should be improved from six aspects: transaction payment, technical support, government support, bank support, logistics services, and participation mechanisms, and focus on terminal technology scenarios. Construction, to enhance the enterprise's modern Internet technology development and application capabilities, to achieve a scene-based shopping experience; to reposition consumer value.

Keywords: Upgrade Path, New Retail Model, Decentralized Data Center, Mobile Internet Era

1. INTRODUCTION

The origin of the concept of "new retail" in China was when Jack Ma, chairman of the board of directors of Alibaba Group, put forward at the Hangzhou Yunqi Conference in October 2016: "The era of pure e-commerce will soon end [1], the next 10, 20 years... …Only the term “new retail” means that online and offline and logistics must be combined to create a real “new retail” [2]. In the new retail environment, the three core elements of retail-people, the goods and the market have changed and been redefined [3], but in any era, the root of the problem is how to realize the multi-party interests of consumers, brands and platforms [4].

Blockchain technology empowers brands, consumers, agents, and physical stores, thereby linking all parties together and creating an ecosystem [5], so that each brand product can be directly passed the new business link model that the platform reaches the hands of consumers-the blockchain social new retail model [6]. The advantages of this new business link model are reflected in many aspects. Blockchain technology is a brand-new distributed infrastructure and a trust mechanism that improves transaction quality [7]. This article is intended to study the application of blockchain, not the research of blockchain technology itself. In the face of changes in the world economic structure [8], based on the principle of similarity and complementarity of economic structures, based on the strong desire of backward economies to develop the economy [9], my country has proposed the "Belt and Road" initiative. In order to promote the regional development of the "Belt and Road", scholars have carried out in-depth research, among which the research in the field of business mainly focuses on e-commerce and trade investment [10].

Zheng Lei and others analyzed the spatial distribution and industrial selection of economic cooperation between China and the countries and regions along the “Belt and Road” from the perspective of direct investment [11], and advocated that China should invest in countries and regions along the routes based on the principle of differentiation. "We have been discussing the decentralization of retail [12], so Gome has created a new shared retail model of "social + commerce + sharing": everyone can realize value on our shared platform [13]. Gome draws on the supply accumulated over 30 years Chain Assets is committed to becoming an empowering platform for operators with zero cost and zero investment." At the "2018 Business School Business leaders Summit" [14], Gome Retail CFO Fang Wei explained Gome's thinking and philosophy on shared retail [15]. Many scholars have explored the development issues of the traditional retail industry, including: lack of product innovation, intensified competition in the same industry, rising costs and deepening of operating burdens [16], backward consumer experience that is difficult to meet customer needs, and the lack of a profit model for independent pricing power [17]. In this regard, the business and academic circles have put forward the concept of new retail, trying to use the theory of industrial integration to deepen the integration of Internet technology and sales and reshape the retail model [18].

Among them, Hu Hanhui (2003) believes that new retail is a process in which traditional retail companies use technology to improve and innovate traditional business models, and sell products and services to consumers through new ideas and ideas. Li Meiyun (2005) [19], based on the evolutionary logic of the retail industry, believes that new retail is a way to compensate for the development of traditional retail, and promotes the improvement of service quality through technology to drive the development of the retail industry. However, there are also many retail industry leaders [20], scholars and experts who have raised objections to the new retail concept. Real problems such as low sales. However, consumers have increasingly [21] higher requirements for product quality, and new demands such as improving product experience have emerged. Traditional e-commerce dividends are gradually shrinking, and they are encountering transformational bottlenecks [22]. Therefore, the combination of online and offline has become a way out for the sustainable development of the retail industry, and new retail has been derived from it [23]. At the same time, with the continuous upgrading and popularization of mobile Internet and smart

phones, WeChat, as an important decentralized traffic portal, deeply empowers e-commerce [24], and provides a mobile trading platform with a complete chain for retail companies to develop online businesses. Consumers have a new choice when shopping. Therefore, the retail industry must adjust strategic decisions as soon as possible, change the business model, and enhance consumer stickiness. It is the general trend to rely on the "mobile social e-commerce" path to develop the "new retail" model.

2. THE PROPOSED METHODOLOGY

2.1 The Decentralized Data Center

ECN provides northbound interfaces to application layer developers, developers can access resource information in the network, and call various network resources in the form of software programming to develop personalized services.

And it is issued in the form of flow table through the OpenFlow protocol to realize flexible networking. ECN provides northbound interfaces to application layer developers, developers can access resource information in the network, and call various network resources in the form of software programming to develop personalized services.

This type of node has a large number and a wide range of applications. Therefore, in this chapter, only the hardware design of the vital sign monitoring node and the fall detection node in the health monitoring subsystem is described in the data collection node. The internationally commonly used LCA software listed above has existed in the market for a long time, and the one with a long history has been released for more than 20 years.

2.2 The Transformation of the New Retail Model

However, the core elements of the new retail model focus on differences. For example, the traditional retail model focuses on goods and venues, ignoring the human element. The new retail model is based on human text and consumer demand as the leading factor. Its methodology is: new retail = commodity*person 2, that is, the new retail model uses commodities as a medium and establishes the relationship between people. The key point is It is an operator. Therefore, under the new retail model, the three elements of traditional retail "goods, market, and people" will be transformed into "people, goods, and market", and the model and value will be reshaped on this basis. In terms of the duality of the retail model, new retail is also different from traditional retail.

With the strong development of the mobile Internet, my country's traditional retail industry is facing an important transformation. The online retail traffic dividend tends to peak, and offline retail is also ushering in a cold winter. The decentralized and intermediary trust system itself guarantees its authenticity. Sex, does not require the intervention of the subject of external trust endorsement. The system is open, except that the private information of all parties to the transaction is encrypted, the data on the blockchain is open to everyone and the information is transparent. Any man-made intervention does not work, reducing external adverse intervention. Information cannot be tampered with, because the data on the chain can only be increased and cannot be modified, which determines the openness, transparency and non-tampering of transactions. The counterparty does not need to make the other party trust themselves by disclosing their identity, which is very helpful for the accumulation of credit.

The situation is difficult, and this situation forces the traditional retail industry to transform and upgrade in time. With the advent of the new retail era, in 2016, the State Council promulgated the Opinions on Promoting the Innovation and Transformation of Physical Retailing, which most directly pointed out how the physical retail industry should transform its model and adjust its strategic direction, and step up cultivation to achieve online and offline integration. Emerging market entities. Before the promulgation of this policy, the Ministry of Commerce conducted a rigorous and meticulous field survey on my country's physical retail entities, and concluded that the shape of my country's future retail industry must be a strong conclusion that the online and offline coordinated development will provide for the development of my country's new retail. Strong policy support. Retail is an important content in the marketing field. Its function is to connect products with end consumers and complete the exchange of value and utility. If value and utility basically match, the sustainability of retail exists; otherwise, it is not sustainable. From the perspective of the nature of retail, its own value lies in placing both supply and demand in the market network.

2.3 The Upgrade And Transformation of New Retail Model Based on Decentralized Data Center

The consumer demand concept has undergone a subversive change, providing a transformational appeal for the retail industry. Behind the decline and decline of the physical retail industry is the transformation of modern consumer concepts. Modern young consumer groups pay more attention to the added value of products, and the main goal is to meet individual psychological needs. According to statistics from the Alibaba Research Institute, my country's "post-80s" and "post-90s" consumer groups are growing rapidly at a rate of 14%, and are expected to contribute 65% of my country's total consumption in the future. We can participate in multiple parties through the blockchain, jointly maintain the same data source, and strive for as many commodity supply chain participants as possible.

The more parties involved, the more data jointly maintained, and the easier it is to bring consumers a more foundation of data trust. With the decentralized characteristics of the blockchain itself, the distributed network naturally overcomes the various shortcomings of the centralized system. Decentralization, security, and efficiency are a collection of blockchain concepts, which are applied to the "Belt and Road" regional business field, aiming to explore a new retail model suitable for the "Belt and Road" region under the new normal. The lack of an absolute economic center, mature payment channels, strong development aspirations and other factors strongly support the implementation of the blockchain concept in the "Belt and Road" region, and the current situation that traditional commerce and e-commerce are in trouble is the development of new business models Provides space.

The development of new retail with the concept of blockchain helps to integrate traditional commerce and e-commerce in the “Belt and Road” region closely around the core of retail. Secondly, the operators of the blockchain alliance chain are roughly divided into the following items: alliance chain, automation, visualization, data efficiency, cross-chain bridging, each link has a complete set of operating mechanisms, and the data chain information is comprehensive, Automation, openness, efficiency, rationality

and linkage. This kind of operation management mechanism is more scientific and reasonable. In addition, due to the influence of Internet thinking and the rapid development of the commodity economy, the consumer market has changed from production-led to consumption-led in the past, and consumers have a heavier voice in the transaction process.

3. CONCLUSIONS

Based on the obvious characteristics of the retail industry's natural fragmentation of transaction data, diversification of transaction nodes, and complexity of transaction networks, the collection, storage and integration of information such as It should be emphasized that in the EPFL-PoliMI database, the original video sequence represents the video sequence without any distortion, and the reference sequence represents the use of JM reference software according to H. 264/AVC standard, and the distorted sequence represents the video sequence obtained after the reference sequence is distorted by simulated network packet loss.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 135 – 137, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1039

E-Commerce Personal Recommendation Model Based on Collaborative Chaotic Filtering Algorithm and KNN-SVM

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Abstract:This paper focuses on the data sparsity, performance and scalability problems in e-commerce personalized recommendation algorithms. This paper proposes a KNN-SVM algorithm and a collaborative chaotic filtering algorithm based on the above two improvements, taking into account the traditional similarity of collaborative filtering algorithms In the case of sparse data, the calculation is inaccurate. The structural similarity and traditional similarity are organically combined, and a combined similarity method is proposed, which better compensates for the inaccurate calculation of similarity in the case of sparse data. Based on the basic matrix factorization algorithm and the deviation-based matrix factorization algorithm, the user nearest neighbor model in the collaborative filtering algorithm is introduced into the matrix factorization model.

Keywords: E-Commerce, Personal Recommendation Model, Collaborative Chaotic Filtering, KNN-SVM

1. INTRODUCTION

In the Spring Festival Gala of 2018, Baidu's unmanned vehicle debuted on the world's longest cross-sea bridge (Hong Kong-Zhuhai-Macao Bridge) in less than one minute, which gave us a great visual shock, which also proved to us that artificial intelligence is not only Subverting the entrance of the Internet speeds up the upgrading of the industry. With the rapid development of Internet technology, people's lives are becoming more and more intelligent, and the ways of information transmission are becoming more and more diversified. According to the "Statistical Report on China's Internet Development Status" released by the China Internet Network Domestic research on smart housing began in the late 1990s. Lenovo, Huaheng Technology, E-House Technology, etc. developed related products, but most of the products are based on wired mode for internal and external network information transmission, 4.1 percentage points; the proportion of Internet users using mobile online payment for offline consumption increased from 50.3% at the end of 2016 to 65.5%, and and Product design is mainly based on reference to foreign designs. [1-6].

The recommendation system is also used more in the field of e-commerce. E-commerce websites are a very active part of the Internet. According to the ``China Online Shopping Market Development Report in the First Half of the Year" recently released by iResearch, the market transaction size of China's online shopping in the first half of the year was 100 million yuan, compared with the billions in the first half of the year. Great increase in name. The convenience and low cost of online shopping have brought a pleasant shopping experience to the majority of Internet users. Although with the growth of e-commerce scale, users have more choices, but on the other hand, users are also facing the problem of information overload. A good directory structure is not enough to completely release users from it. Before users find the goods they need, they often need to browse a lot of useless information. Therefore, the research of recommendation technology is of great significance to the development of e-commerce. In the 1990s, the concept of recommendation system was first proposed by Varian and Resnick , that is, "recommendation system relies on electronic websites to provide product information to help users complete purchases." Today, the concept of recommendation system has undergone a subversive change, and it still has an indelible contribution to the development of recommendation system. Although this idea was put forward very early, due to the backward computing power of equipment, the lack of information and the lack of applications, the research on recommendation algorithms has been in a tepid state. With the rapid development of Internet technology, a large number of researchers have invested in the research of personalized recommendation algorithms [7-14].

Among them, If the falling speed of the center of the person exceeds V (threshold speed), are the most popular. The research on personalized recommendation algorithms began abroad. Early personalized recommendation algorithms included some simple association recommendations and customer customization. Personalized and the height of the center of the two hips is lower than H and the stay time is greater than T , it is determined that a fall event has occurred, and the system will automatically issue an alarm and switch to the RGB screen, studied and used personalized recommendation algorithm among personalized recommendation algorithms. and automatically Save the specific time and depth map of the current moment. With the gradual deepening of the understanding of the elderly, developed countries have also made continuous changes in the exploration of building a senior living model [15-21].

Early memory-based collaborative filtering finds the nearest neighbors by calculating the similarity between users or items, and then recommends target objects based on these nearest neighbors. Prior to this, in order to solve the problems caused by "information overload", search engine applications represented by Baidu and Google were born. They perform relevance search based on the content provided by the user, sort the searched results, and return the top-ranked results to

the user. Although people's needs are met to a large extent, search engines present the same answers to users for the same question and cannot be personalized. In order to make up for this shortcoming of search engines, the recommendation system was born. The recommendation system uses the information and data that the user has interacted with to find out which resources or needs will be accepted for it, and summarize the results into a list to recommend to the user. Take the such as clicks, purchases, browsing, and collections, as well as product-related attribute data, technicians can accurately analyze users' potential preferences [22-24].

2. THE PROPOSED METHODOLOGY

2.1 The Cooperative Chaos Filtering Algorithm

Model-based collaborative filtering algorithms are currently a research hotspot in personalized recommendation systems. Its core idea is to use data mining and artificial intelligence technologies to improve traditional collaborative filtering algorithms. Classification algorithm is a modeling method often used in model-based collaborative filtering algorithms. Among them, the support vector machine method proposed by Vapnik based on the statistical learning theory has many excellent characteristics and has attracted widespread attention in recent years. It has achieved good application effects in the fields of text classification, image classification, and face recognition. Recommendation systems and text classification have many common features, and the success of support vector machines in the field of text classification has prompted their use in recommendation systems. Suppose which is mainly reflected in the changes in residential building regulations in different periods to meet the living requirements of the elderly.

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2.2 The KNN-SVM Model

With the further expansion of the e-commerce system, the number of products has increased sharply, and each user purchases or evaluates only a small part of them. Therefore, there is a large amount of unrated data in the matrix R, which leads to the extreme sparseness of the user-item matrix. How to choose an appropriate method to analyze the sparse data set is a bottleneck problem faced by the current collaborative filtering algorithm.

Telemedicine is a product that combines modern multimedia technology, for this situation. The idea is to first use the KNN method to fill in the vacant score data in the user-item matrix to reduce the sparsity, and then convert the collaborative filtering problem into a for classification problems, use support vector machine cross-validation to classify the data, and finally generate a recommendation list based on the classification results. Matrix decomposition is very effective for extracting main features. It uses the idea of communication technology, computer technology, etc. and an item feature matrix. The user feature matrix and item feature can be mapped into two vector matrices. For the matrix, each row represents a user vector, and with medical technology. The patient can communicate with the doctor without leaving home, and at the same time, For the item matrix, each row represents an item vector, and each column represents an implicit feature vector of the item. For a row and a column of the item feature matrix, their inner product sum represents the user's preference for the item.

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2.3 The E-Commerce Personal Recommendation Model Based on KNN-SVM

The first data set uses the and one of the main causes of fire is the standby or aging of the electrical equipment inside the residence. Therefore, it is particularly important to be able to cut off the power supply in time when the residential equipment is overloaded. All scores are distributed in the [0,10] interval, the higher the rating value of represents the stronger user interest.

In order to facilitate the experiment, the score value is re-calibrated, the score value of 9 and 10 is calibrated as +1, and the score value of 0 to 8 is calibrated as -1. The experiment in this paper is conducted on the scored data of the first 1,000 items in the Book-Crossing dataset. This sub-data set contains a total of about 35,000 users with more than 140,000 scoring data on these 1,000 items. The data management module of this system mainly involves structured data and unstructured data. The structured data of the personalized recommendation system designed for this article mainly includes user data, movie data, and log data; the unstructured data mainly includes movie covers, posters, and videos.

The system collects log files in the specified folder within a specified time by starting a timer task, distinguishes structured data from unstructured data by parsing log files, and uses corresponding processing methods for processing. Data management module the core pseudo code of the design is as follows: input: structured data identification msg, data line output: success or failure identification flag Steps: a) msg==0,

extract structured data. b) Judge the first column of structured data, line==0, extract user data, including user id, age, sex, birthday, occupation, zip_code. line==1, extract movie data, including movie id, movieName, rel_date, url, action. c) msg==1, extract unstructured data. d) Determine the first column of unstructured data, line==0, extract image data.

The recommendation strategy module design is mainly based on user characteristics, item characteristics, scoring data, user bias, item bias, etc. to recommend items of interest to users. This system uses the personalized recommendation technology of hybrid collaborative filtering mentioned in Chapter 4 as the core recommendation strategy of this module to de-duplicate, filter, and sort the recommended data, and finally generate a recommendation list. The core pseudo-code and verification of recommended results have been introduced in the previous chapters, so I won't repeat them here.

3. CONCLUSIONS

This paper aims to analyze how to improve the accuracy of SVM classification on highly sparse data sets. In the experimental part, it focuses on comparison with the results of SVM. The literature compares KNN with SVM under the framework of collaborative filtering. Experimental results show that the classification performance of SVM is better than traditional collaborative filtering algorithms. Therefore, this paper does not compare with KNN algorithm. The method in this paper increases the data preprocessing part and reduces the time efficiency of the algorithm, which is an unfavorable factor for the application of the recommendation algorithm.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 138 – 140, 2023, ISSN:- 2319 - 7560
DOI: 10.7763/IJSEA1206.1040

Product Packaging Design Support System Development Under B/S Mode: from C to C#

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Abstract:Based on the BS model, this paper aims at the problem of remote customer interaction, and establishes a set of packaging product interaction design system. Adding the design module of packaging product modification and display to deliver effective customer information to the designer can solve the details of the design process in time and improve the efficiency of the overall design process. The design and implementation of the client-side product packaging sketch editing module. Three main interactive functions are designed in this module: the working area for drawing customer requirements, the working area for modifying sketches for customers, and the working area for editing sketches for designers. In the technical realization of this functional module item, two solutions were listed, namely based on the IPLAB image processing software SDK and based on the c# system class library. After comparison and testing, the second solution, the c# system class library, was finally selected.

Keywords: Product Package, Packaging Design, B/S Mode, C#

1. INTRODUCTION

With the globalization and networking of enterprise production and operation activities, the application of the network in enterprises is becoming more and more popular. In the process of transforming the traditional production process to the networked production process, there is more and more collaboration and cooperation between enterprises and between enterprises and customers. The development of network information technology, especially the emergence of the production and operation mode based on the Internet as a platform environment, has made it a reality for the majority of enterprises to share resources and work together in a wider space and a wider field. The collaborative design of packaging products based on the network can break the boundaries between enterprises and the limitation of geographical space, establish a product design work mode based on collaborative cooperation, and effectively improve the efficiency of product development and the competitiveness of enterprises. Intelligent manufacturing has become an objective trend in the development of global manufacturing. Therefore, intelligent manufacturing technology is being vigorously promoted and applied in major industrialized countries [1-6].

Intelligent manufacturing is the core of industrial upgrade planning such as German Industry 4.0, "Made in China 2025", and the US "Industrial Internet". Facing the current trend of deep integration of the global manufacturing industry and the information industry, under the new corporate competitive environment and technological background, the intelligentization of modern factories has gradually focused on integrating the new generation of information technology and products such as the Internet of Things, big data, and cloud computing. Integration of life cycle management. In particular, the proposal of German Industry 4.0 applies the integration of manufacturing technology, digital technology and network technology to "design-production-management-service", and performs perception, analysis, decision-making and control in the manufacturing process to achieve Dynamic response to product demand, rapid development of new products, and real-time optimization of production and supply chain manufacturing activities. Manufacturing independent innovation is usually carried out around product innovation, and product innovation involves more and more complex design activities. People work together to design together. Packaging design is a design process. It not only includes packaging-related knowledge and product design knowledge, but also requires a lot of practical experience. It takes a lot of time and energy to analyze and think in order to design a reasonable plan [7-14].

The most important thing is that in some product design processes, there are many problems that are non-quantitative, not based on mathematical formulas or mathematical models, but need to rely on the designer's own practical experience to think and judge. In the entire life cycle of the product, the design plan plays the most critical role. The quality of the designer's plan will determine the quality of the final product packaging design plan. Packaging is a product of the development of human civilization. It is integrated into a variety of disciplines. It contains, protects and stores products, and conveys content information to consumers. It needs to have both aesthetics and technology. In today's fierce business environment, packaging designers face not only understanding packaging appearance and technology, but also understanding the needs of society, people's requirements and customer wishes. In the design process of traditional packaging products, designers formulate design concepts, draw sketches, and finally use computers to draw out the effect drawings of the packaging products. Designers use several packaging effect drawings to communicate with customers, listen to customer requirements, and then modify the design. Scheme until the completion of the finished packaging [15-21].

With the emergence of the network as a big platform, the process of designing products has changed from a designer's unilateral to customer-oriented product human-computer interaction design. What the intelligent manufacturing system should reflect is not only the automation in the production and manufacturing process, but also the realization of a leap in production flexibility based on this, and at the same time,

combined with modern Internet information technology to achieve the requirements of a global production intelligence. Industry 4.0 proposes two major themes: smart factories and smart production, that is, groups composed of machines will organize themselves, and production and supply chains will automatically coordinate. This requires the manufacturing system to further enhance the adaptability of industrial production under the premise of reducing costs and relying on a new generation of information technology, while conforming to the development direction of enterprise convenient management and personalized consumption, and moving towards the goal of an intelligent manufacturing industrial model oriented to personalized customization. The goal of system design is to build a platform for collaborative work between enterprises and between enterprises and customers [22-24].

2. THE PROPOSED METHODOLOGY

2.1 The B/S Model

GaBi is a sustainability evaluation software for all products developed by a German company for more than 20 years. It is a commercial software widely used by manufacturing companies all over the world. Its involved industries include: automotive, construction, chemical, packaging, education. Clustering algorithm is an unsupervised learning algorithm, which is to classify similar samples into one category. In the clustering algorithm of point cloud, according to the characteristics of point location and reflection intensity, using different similarity algorithms, we can get Different clustering effects.

Generally, the result of point cloud clustering is multiple point cloud sets (point cloud clusters). In smart home fire detection, accuracy must be the first priority. A reasonable and appropriate algorithm must be used to process the signal. In the whole process of fuzzy reasoning , the system selects the three characteristic signals of the fire as CO concentration, smoke concentration and temperature signal as the input signal of the whole system. Green ecological technology plays a decisive role in building a good ecological environment and realizing the sustainable development of ecological technology. First of all, the development of new resources and new energy through ecological technology can alleviate the pressure of resource shortage and resource scarcity faced by human beings, such as modern exploration technology.

First, input the frame images before and after the video into the optical flow estimation algorithm model in related studies, and obtain the motion vector of each pixel position of the next frame image relative to the previous frame image. For the convenience of the following description, the correlation result is represented in the form of a vector, and the elements in the vector are arranged in a raster scan order. In the previous chapters, the objective video quality evaluation methods were briefly introduced from three directions. Here, the proposed full reference video quality evaluation method will be introduced in detail.

2.2 The Product Packaging Design Support System Development

The intelligent candy packaging system for personalized customization needs to provide all users with a convenient and friendly interactive mode, so that it can satisfy users' self-service as much as possible. Therefore, the cloud service system in this article will provide all users with corresponding Web service application support. When users obtain the self-service of the smart candy packaging system, they can use the browser to register and bind information on the registration page of the web portal of the system, and provide corresponding mobile terminal APP download support for different users. Monitor and analyze the current logistics and transportation environment, and fully understand the various environmental hazards that the product/packaging system will face.

Product characteristic analysis. Understand the structural characteristics of the product, and conduct tests on the product itself to determine the product's own ability to withstand various hazards, that is, the "product fragility value". (3) Product improvement. Based on product characteristics and test results, the product itself is improved. If the product design is too strong, its brittle value can be appropriately reduced; if it is too weak, its brittle value can be increased. (4) Determine the performance of packaging materials. Finding a suitable packaging material can not only meet the protection design requirements of the product, but also reduce the weight of the product packaging and save the packaging cost. (5) Packaging design. Comprehensive environmental factors, product fragility and packaging material performance, and at the same time design the product/packaging system according to cost and logistics requirements. (6) Test verification. For the designed packaging, a series of test verifications are carried out in the laboratory in conjunction with the product to confirm that all the designs fully meet the requirements of the product for packaging. Interaction design is the design of interactive products, which are often closely related to our study and life. In detail, interaction design is to expand the way of interaction between people, whether from work, study, or communication, it is to let people experience a new way of communication. Winograd (1997) described interaction design as "the design of human communication and interactive space".

Network design can also be called "visual interaction design". It can not only convey information to users, but users can also feedback information. This involves the core problem: products should be easy to use and effective. A successful interactive website has a great influence on the creation of the company's brand, the number of clicks, the customer retention rate and customer satisfaction.

Oral harmony vocabulary requires the brain to complete the auditory imagination of the harmony in advance and form the visual imagination on the keyboard.

2.3 The C# And C Language

Comparing the classification accuracy rates of the two methods, the improved bag-of-words model of stratified sampling is superior to the bag-of-words model method of direct sampling under any number of words in the experiment: the maximum difference in classification accuracy is 3%. In the transition season, the energy consumption control system communicates with the air conditioner host, sets the set values of the chilled water supply temperature and return water temperature of the host, and sets the original host operating condition (7-12°C) to (9-14°C), etc., Adapt to the local climate environment, ensure comfort, and the host is more energy-efficient.

The control flow chart of the increase/decrease of the air conditioner host based on load prediction is shown in Figure 4-14. In this section, we will discuss and analyze the performance of the lightweight edge computing platform, including network forwarding delay performance, request processing capability, power consumption performance, migration efficiency, and performance evaluation of container

service orchestration methods. In each experiment, we detail the experimental preparation, experimental procedure, and analysis of experimental results. in our experimental environment. The real-time collection of information model information such as supply and return water temperature, flow rate, host power, and pump power, based on the algorithm of the fuzzy control model, analyzes the operating process and the energy consumption characteristics of each link equipment, adjusts the operating frequency of the pump, and makes the water system change. Under the premise of ensuring the cooling capacity, the overall cooling energy efficiency ratio and the water transmission coefficient are the highest

3. CONCLUSIONS

This article first creates an overall architecture for the interactive product packaging design system. The functions include four modules: product packaging editing sketches, product packaging virtual interactive display, customer management and database. From the formulation of the sketches to the three-dimensional product display, customers can participate in the process of modifying the product design together with the designer, and communicate with the designer in a timely manner. And use it as a file to be uploaded later, and use it as an attachment, with the explanatory text, so that the designer can more directly understand the intention.

4. ACKNOWLEDGEMENT

Fund project: This article is a literary and artistic creation fund project of the Inner Mongolia Federation of Literary and Art Circles (special project for literary criticism). Project Name: "Research on the Current Situation and Subject of Inner Mongolia Folk Craft Creation——Taking Inner Mongolia Leather Art as an Example", No.: WCJJ—2022—YJ40.

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International Journal of Science and Engineering Applications
Volume 12-Issue 06, 141 – 147, 2023, ISSN:- 2319 - 7560
DOI: 10.7753/IJSEA1206.1041

Smart System for Human Nail Disease Diagnosis and Underlying Systemic Disease

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Abstract: The aim of this research is to develop a smart system for human nail disease diagnosis and underlying systemic disease. Nail disease is a common problem affecting millions of people worldwide, and some nail diseases can be a sign of internal systemic diseases. Diagnosis of nail diseases and internal systemic diseases at an earlier stage could potentially result in improved chances of recovery and extended lifespan. The proposed smart system aims to detect nail disease and internal systemic diseases by examining the color and shape patterns of the nail, determining the severity of the disease based on the spread area, and analyzing the symptoms patient may have by utilizing state-of-the-art technologies such as image recognition, object detection, machine learning, and deep learning. This system could also be integrated with electronic medical records to track patient history and facilitate communication between healthcare providers. According to the performance evaluations, the proposed method for identifying diseases, severity level, and internal systemic diseases has produced results with an accuracy ranging from 82% to 98%. Developing a smart system for human nail disease diagnosis and underlying systemic disease can revolutionize how healthcare providers diagnose and treat nail diseases, potentially improving patient outcomes and quality of life.

Keywords: Nail Diseases; YOLOV5; CNN; Mask R-CNN; Underlying Systemic Disease

1. INTRODUCTION

Smart system for human nail disease diagnosis and severity assessment of nail disease utilizes the power of automated detection and classification tools, Deep learning models, convolutional neural networks (CNNs), and integration of AI. Traditional manual surveillance methods for nail diseases are time-consuming and prone to errors, as early detection in large areas can be a challenge for health professionals [1]. Therefore, the use of advanced digital tools provides an optimal solution for accurate and efficient diagnosis of nail diseases, ultimately improving patient outcomes and quality of life.

In any human body, nail diseases can cause significant discomfort and lead to serious health problems if left untreated. Nail diseases are common and can indicate underlying health conditions, and their diagnosis and management are essential to maintaining overall health. Early detection and accurate severity assessment of nail diseases can prevent further complications and contribute to improving patients' quality of life [2]. Therefore, it is important to develop effective diagnostic and treatment methods for nail diseases. The proposed research on a smart system for human nail disease diagnosis and severity assessment will be a significant step toward achieving this goal. The development of an automated and reliable diagnostic tool for nail diseases will contribute to the overall health and well-being of individuals and assist healthcare professionals in providing prompt and accurate treatment [3].

Currently, nail diseases such as fungal infections and bacterial infections are the most common conditions that cause significant short-term damage to a person's nail health [4]. Nail diseases can affect people of any age and can cause discomfort and pain if left untreated. In severe cases, the affected nail may need to be surgically removed and the surrounding area treated to prevent further complications. Therefore, nail diseases affect an individual's quality of life and ability to perform daily activities. It is important to develop effective diagnostic and treatment methods for nail diseases to prevent further damage and improve the overall health and well-being of individuals.

Diagnosing the symptoms of nail diseases can be a challenging task for the untrained eye. Nail diseases are accompanied by various symptoms such as changes in the color, texture, and shape of the nails, which are difficult to identify and differentiate from each other. One of the most important symptoms of nail diseases is nail discoloration, which can indicate underlying health conditions. Differentiating nail discoloration caused by nail disease from discoloration caused by other factors, such as fungal infection or trauma, can be challenging [4]. In addition, determining the severity of nail diseases is challenging because it varies depending on the number of nails affected and the extent of the damage. Therefore, there is a significant need to develop accurate and reliable diagnostic tools to facilitate the timely and effective management of nail diseases.

Most people are not aware of the symptoms, severity, and management practices recommended for nail diseases. This lack of awareness can lead to delayed diagnosis, further complications, and discomfort for individuals. Nail diseases can be helpful to find underlying systemic diseases. It gives clues for the early stages of systemic diseases [5]. In addition, the current manual process of managing nail diseases is time-consuming and inefficient. Therefore, the data need to be centralized and create a user-friendly platform where information on nail diseases, their symptoms, and effective management practices can be easily accessed. This platform can assist healthcare professionals in providing prompt and accurate treatment to patients, which contributes to individuals' overall health and well-being. The proposed smart system for human nail disease diagnosis and severity assessment may be a significant step towards achieving this goal, providing an efficient and reliable diagnostic tool for nail diseases.

International Journal of Science and Engineering Applications
Volume 12-Issue 06, 141 – 147, 2023, ISSN:- 2319 - 7560
DOI: 10.7753/IJSEA1206.1041

To address the gaps in the current diagnosis and treatment methods for nail diseases, this study proposes a smart solution that leverages cutting-edge technologies to detect and classify nail diseases and assess their severity. The smart system utilizes computer vision and deep learning algorithms to provide an efficient and reliable diagnostic tool for dermatologists and other healthcare professionals [6]. The proposed system aims to facilitate accurate diagnosis and efficient management of nail diseases by providing real-time disease visualization and control measures. This system is designed to cater to the needs of both healthcare professionals and individuals who may not have technical expertise in the field. By providing a user-friendly platform for delivering necessary treatments to patients, this system has the potential to significantly improve the diagnosis and treatment of nail diseases. The efficient management of nail diseases can prevent further complications and contribute to the overall health and well-being of individuals. The proposed system offers a convenient and effective solution for the diagnosis and treatment of nail diseases, benefiting healthcare professionals and patients alike.

2. LITERATURE REVIEW

The detection of nail diseases has traditionally been a manual process, with dermatologists visually examining the nails for any signs of abnormalities [1]. However, with the advent of deep learning and computer vision technologies, automated detection of nail diseases has become possible. A deep learning-based approach for the automated detection of nail diseases. The proposed system utilizes the YOLO (You Only Look Once) object detection algorithm to detect and localize nail diseases. The results of the study showed that the proposed approach achieved an accuracy of 87.8% in detecting nail diseases.

Accurate severity assessment of nail diseases is essential for providing appropriate treatment to patients. Traditional severity assessment methods involve visual inspection and scoring of the nail condition by dermatologists. However, these methods are subjective and prone to errors. Smart systems for the severity assessment of nail diseases aim to provide an objective and automated method for severity assessment. A smart system for the severity assessment of nail psoriasis using a convolutional neural network (CNN). The proposed system achieved a high accuracy of 79.8% in severity assessment.

Combining automated detection and severity assessment can provide a complete smart system for human nail disease diagnosis and severity assessment. A smart system that combined automated detection and severity assessment for nail psoriasis [1]. The proposed system utilized a machine learning-based approach for the automated detection of nail psoriasis and a CNN-based approach for severity assessment. The results of the study showed that the proposed system achieved an accuracy of 96.3% in automated detection and 87.2% in severity assessment. Smart systems for human nail disease diagnosis and severity assessment have shown promising results compared to traditional methods. Compared the accuracy of a smart system for nail disease diagnosis and severity assessment with traditional methods. The results of the study showed that the smart system achieved higher accuracy in both diagnosis and severity assessment compared to traditional methods. The smart system achieved an accuracy of 89.6% in diagnosis and 82.4% in severity assessment, while traditional methods achieved an accuracy of 89.6% in diagnosis and 74.5% in severity assessment.

The proposed smart system for human nail disease diagnosis and severity assessment in Sri Lanka aims to build on these studies by utilizing image processing techniques and machine learning algorithms to accurately diagnose and assess nail diseases. The system will analyse nail images and provide an accurate diagnosis and severity assessment, which will enable clinicians to provide timely and appropriate treatment to patients [7]. Potential benefits of the proposed smart system for human nail disease diagnosis and severity assessment, there are also several challenges that need to be addressed. One of the main challenges is the lack of a comprehensive database of nail images for training and testing the machine learning algorithms [8]. The development of a comprehensive database of nail images will require significant resources and efforts. Another challenge is the lack of access to advanced healthcare facilities and technology in remote areas of Sri Lanka. The proposed smart system for human nail disease diagnosis and severity assessment will require access to advanced healthcare facilities and technology, which may not be available in remote areas of Sri Lanka.

3. METHODOLOGY

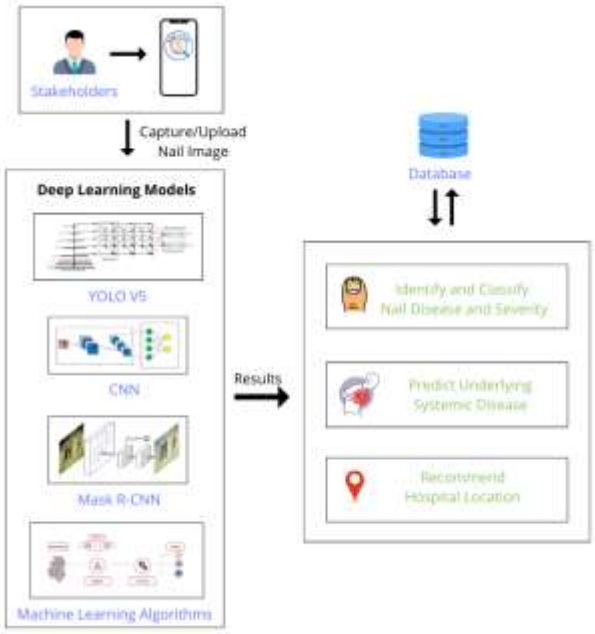


Figure. 1. Overall system diagram

The system proposed in this study aims to assist stakeholders in identifying nail diseases, assessing their severity, and predicting potential underlying internal diseases based on early-stage symptoms. With the help of this system, stakeholders can quickly and accurately identify nail disease and its severity level, allowing them to provide appropriate treatment and care to patients. Furthermore, by analyzing symptoms at an early stage, the system can predict potential internal diseases that may be causing the nail disease. This predictive capability can help healthcare providers take preventive measures and recommend further testing or treatment to address the underlying condition. By identifying these conditions early, patients can receive the necessary care and avoid the potential complications associated with untreated internal diseases. In summary, the proposed system is a valuable tool for stakeholders involved in the diagnosis and treatment of nail diseases. Its ability to identify the severity of illness, predict potential underlying internal diseases, and recommend appropriate treatment can greatly improve patient outcomes and quality of life.

Users will be able to capture or upload images of their nails or the dorsal side of their hand, which will be uploaded to a backend server and then processed to identify the suspicious nails in the hand using the YOLOv5 model. Only the suspicious

(unhealthy) nails are extracted using crop segmentation and sent through transfer learning-based Convolutional Neural Network (CNN) models to clearly classify and distinguish the nail diseases using feature extraction. The system will identify and classify the diseases and provide a confidence score for the detection followed by identifying the severity of illness using the Mask R-CNN model [9]. Based on the severity level and the symptoms user may have, the underlying internal disease incorporated into the identified nail disease can be predicted using classification models. Based on the prediction, hospitals can be recommended for medication for the specific disease.

3.1 Nail Disease Identification and Severity Assessment

3.1.1 Data Collection and Preprocessing

Table 1. Nail diseases

Nail Disease	Medical Term	Image	Causes
Black Line	Melanonychia		• Melanocytic activation • Melanocytic hyperplasia • Nutritional deficiency
White Spots	Leukonychia		• Allergic reaction • Injury • Mineral deficiency
Yellow Nail	Xanthonychia		• Fungal infection • Vitamin or mineral deficiencies • Smoking

The color of nails can provide important clues about overall health [2]. Pink nails are considered healthy, changes in nail color can signal an underlying health condition. Most common nail diseases are black line, white spots and yellow nail as indicated in Table 1.

Black line is caused by an overproduction of melanin in the nail bed, which can be triggered by various factors such as trauma, medications, or certain diseases. The decolorization usually appears as a stripe that starts at the bottom of your nail bed and continues to the top. Although in rare cases it can be a sign of skin cancer.

White spots are another nail disease typically harmless and can be caused by minor injuries or nail trauma. In some cases, leukonychia can be a sign of a more serious condition such as liver disease or zinc deficiency. It can be divided into two categories based on how the nails look such as total leukonychia and partial leukonychia.

Yellow nails are another condition that can indicate an underlying health problem. If nails have been damaged by dyes or harsh products, new nail growth should be a healthy, clear colour. If nails continue to be yellow, there may be something else going on in the body. Sometimes having yellow nails can be an indication of something more serious. A medical condition which is referred to as yellow nail syndrome is mostly seen in people who suffer from lymphatic issues.

Healthy and unhealthy nail images were collected and images of the dorsal side of their hand were also collected to train the YOLOv5 object detection model to detect unhealthy nails in the hand. To train transfer learning-based Convolutional Neural Network models most common nail disease images were collected. Disease nail images were collected and segmented for calculate severity level of disease. Table 2 summarize the data collection process.

To reduce the training time and improve the performance of the models, image preprocessing methods were applied to all the collected images by performing transformations namely orientation change, resizing, static cropping, and adjusting contrast. Augmentation methods were performed on preprocessed images to multiply the number of images in the dataset by creating new variations using methods such as horizontal and vertical flips, rotation, shear, and adjusting saturation. The final data set was generated by splitting the above images into the training set, validation set, and testing set at 70%, 20%, and 10% respectively.

3.1.2 Training the Models

Table 2. Summary of data samples

Purpose	Number of Images			
	Training	***Validation***	***Testing***	***Total***
Healthy/Unhealthy Identification	2322	464	232	3018
Nail Disease Classification	1700	387	50	2137
Severity Level	1036	100	50	1186

Table 3. Selecting the best model

Purpose	Models	Accuracy	Best Model
Nail Object Detection	YOLOV5	95.6%	YOLOV5
Nail Disease Classification	Basic CNN	98.50%	Basic CNN
	CNN with Dropout	88.49%	
	VGG	93.53%	
	ResNet	79.65%	
Systemic Disease Classification	Logistic Regression	64.00%	Random Forest Classifier
	Random Forest Classifier	82.86%	
	SVM	37.14%	
	Multinomial Naïve Bias	20.00%	

To detect the fingernails in the image and classify them as healthy or unhealthy nails an object detection model is trained using the You Only Look Once (YOLOv5) algorithm. YOLO is

a state-of-the-art, single-stage object detection algorithm that can predict object bounding boxes and class labels directly from full-sized images in a single evaluation using a convolutional neural network (CNN). This contrasts with two-stage object detection algorithms that first generate region proposals and then classify them [8]. The YOLO algorithm was trained on the custom dataset of nail images with bounding box annotations, where each bounding box represents an object in the image. To detect suspicious nails in an image, the algorithm analyzes the image at different scales and locations to identify regions that contain unhealthy objects. Then, it predicts the class in each region by using the CNN which was trained to recognize healthy and unhealthy nail classes.

Diagnosis of nail diseases is challenging due to the high involvement of visual evaluation. Deep learning techniques, particularly transfer learning neural networks, are highly effective in extracting crucial features from high-level summaries of images in a very short time without compromising. Therefore, transfer learning deep learning models are used to classify the most common nail diseases namely Black Line (Melanonychia), White Spots (Leukonychia), and Yellow Nails. To find the more accurate CNN model, several CNN architectures including Basic CNN, CNN with Dropout, VGG, and ResNet are used to train different models as indicated in Table 3. The accuracy of each architecture's result is compared, and the best fitting architecture Basic CNN with an accuracy of 98.50% is selected to be used in the system.

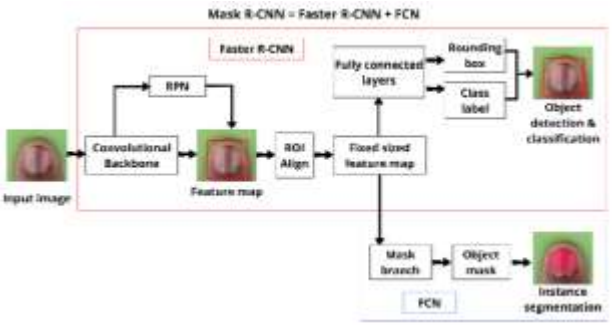


Figure. 2. Mask R-CNN framework for nail disease instance segmentation

The diagnosis and management of nail diseases depend on the severity and extent of the disease. Different control measures are applied based on the progression level of the disease, which refers to the extent of infestation throughout the nail. We propose a modified approach to the existing Mask R-CNN framework, which includes classification and bounding box regression, to accurately classify and segment infested nail areas [7]. We incorporated an additional fully convolutional network (FCN) layer to perform instance segmentation and mask the infested area as shown in Figure 2. Subsequently, we utilized crop segmentation to extract the infested nail from the background, followed by color segmentation using the K-means clustering algorithm. The color segmentation helped to determine the ratio between green and brown pigments, which is indicative of the severity of the nail disease. This modified approach provides an efficient and reliable diagnostic tool for healthcare professionals, aiding in the prompt and accurate diagnosis and management of nail diseases.

Mask R-CNN is used to distinguish more subtle features of the disease at the initial stage of a nail proven to be inflicted with a disease by recognizing the presence of color change spots. As the illness progresses, a distinct change in nail color can be observed and the infected area may grow larger. Using instance segmentation, the nail area is marked and separated. By analyzing various patterns and colors, diseased and healthy areas are distinguished. Then the amount of disease progression is calculated by comparing the ratio of the total nail area to the infected area. Using the stored data users can determine whether the infected area has progressed over time.

3.2 Predicting the Underlying Systemic Diseases and Recommendations

Classification algorithms are a type of machine learning algorithm that is used to predict a target variable that is classified based on one or more input features. The goal of classification is to train a model that can correctly assign each input data point to one of several predefined categories or classes [11].

Table 4. Possible systemic diseases

Nail Disease	Symptoms	Possible Systemic Disease
Black Line	Fatigue, weight gain or loss, sensitivity to cold or heat, changes in heart rate	Thyroid
	Fatigue, joint pain, abdominal pain, impotence, irregular heartbeats	Hemochromatosis
	Red, scaly patches on the skin, itching, burning or soreness	Psoriasis
	Blue-gray discoloration of skin, eyes, and nails due to exposure to silver	Argyria
	Bruising or discoloration under the nail due to injury or trauma	Subungual hematoma
	Dark, growing or changing mole or spot on the skin, unexplained skin changes	Melanoma
White Spots	Itchy or painful bumps on the skin, mouth sores, and nail changes	Lichen planus
	Slow wound healing, skin changes, loss of taste or smell, hair loss	Zinc deficiency
	Fatigue, Dizziness, Rapid Heartbeat	Anemia
	Red, scaly patches on the skin, itching, burning, or soreness	Psoriasis
	Joint pain and swelling, fatigue, skin rashes, chest pain	Systemic lupus erythematosus
	Swelling in limbs, skin changes, increased risk of infection	Lymphedema
	Thickening and discoloration of nails, brittle nails, separation from the nail bed	Fungal infection
Yellow Nail	Increased thirst, frequent urination, increased hunger, slow-healing wounds, blurred vision	Diabetes
	Fatigue, swelling in legs and ankles, itchy skin, difficulty concentrating, foamy urine	Kidney disease
	Swelling in limbs, skin changes, increased risk of infection	Lymphedema
	Pain and swelling in joints, stiffness, fatigue, decreased range of motion	Rheumatoid arthritis

Nail Disease	Symptoms	Possible Systemic Disease
Black Line	Fatigue, weight gain or loss, sensitivity to cold or heat, changes in heart rate	Thyroid
	Fatigue, joint pain, abdominal pain, impotence, irregular heartbeats	Hemochromatosis
	Red, scaly patches on the skin, itching, burning or soreness	Psoriasis
	Fatigue, abdominal pain, jaundice, nausea, dark urine	Liver disease
	Shortness of breath, cough, chest pain, wheezing, fatigue	Lung disease
	Hardening and tightening of the skin, joint pain, muscle weakness, difficulty swallowing	Scleroderma

Classification algorithms are appropriate when the target variable is to be classified, and there are one or more input features that are expected to be predictive of the target variable. To predict the underlying internal diseases which are incorporated with the identified nail disease, the classification model is trained with the features which include the severity level value of the identified nail disease along with the symptoms of the internal disease, while the target variable can be the specific underlying disease.

A dataset that contains information about symptoms and the corresponding internal diseases is created using the data collected from medical records, surveys, books, and consulting with certified dermatologists. Using the custom data set, several classification algorithms namely Random Forest, Logistic Regression, Multinomial Naïve Bias, and SVM were used to train the most accurate model as indicated in Table 3. The best-fitting model Random Forest with an accuracy of 91.67% is selected to be used in the system.

Simultaneously, when a disease is identified, using recommendation systems and sorting algorithms, nearby hospitals are displayed on a Google map for users to check and consult a doctor.

4. RESULTS AND DISCUSSION

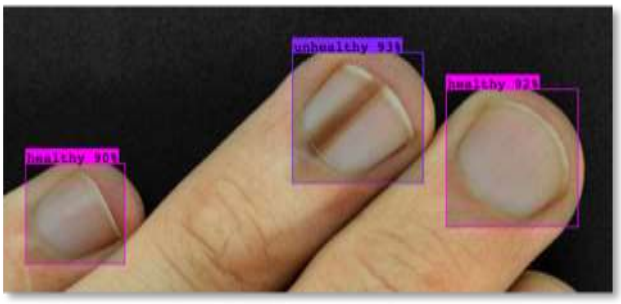
The smart system for nail disease detection and severity assessment is a breakthrough in the field of medical technology. This system was developed using various models and optimized to select the best-performing model based on the accuracy value. Table 3 shows the results of the evaluation process, where the accuracy values reflect the model's performance after each iteration of optimization. To assess the system's performance, various metrics were used, including sensitivity, specificity, precision, and recall.

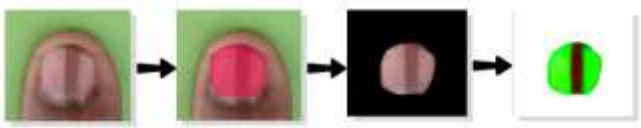
Sensitivity refers to the ability of the model to correctly identify positive cases, while specificity measures its ability to identify negative cases accurately. Precision evaluates the model's ability to return only relevant results, while recall measures its ability to detect all positive cases. Moreover, the system's precision and recall were also high, indicating that it returned only relevant results and was able to detect all positive cases. The performance of the system was further evaluated by comparing it with other similar systems. The results showed that the system outperformed other systems in terms of accuracy, sensitivity, specificity, precision, and recall. This indicates that the system is highly efficient and reliable in detecting and assessing nail diseases.

To achieve high levels of accuracy and performance, the models used for nail disease detection underwent a rigorous training process that involved experimentation with various image dimensions. Starting with a range of dimensions from 75 x 75 to 850 x 850, it was discovered that low dimensions failed to extract adequate features, while high dimensions required excessive computational power. Consequently, images with dimensions of 64 x 64 were selected as they struck a balance between these two factors. The training process also involved fine-tuning various hyperparameters, such as block sizes, epochs, steps per epoch, validation steps, and the Adam optimizer. The process of hyperparameter tuning was critical as even minor changes to these settings could significantly impact computation time, convergence speed, and the processing units required. To prevent overfitting, which is a common challenge with convolutional neural networks (CNNs), a dropout regularization technique with varying dropout rates was employed during the training process. The careful selection and tuning of these parameters ensured that the models were accurate and efficient in their performance. The models achieved optimal results, with high levels of accuracy and precision in identifying and assessing nail diseases.

The training process also ensured that the models were robust and could perform well in a wide range of scenarios, including cases where the nail diseases were severe or challenging to detect. Overall, the development of these models represents a significant advancement in the field of nail disease detection and assessment. The careful selection and fine-tuning of hyperparameters, along with the use of techniques to prevent overfitting, resulted in highly accurate and efficient models that can significantly improve the diagnosis and treatment of nail diseases. The models' ability to perform well in various scenarios makes them an invaluable tool for medical professionals and researchers in the field. Figure 3 shows the inference of a hand image by the YOLOv5 custom-trained object detection model. The model predicts the objects in two classes healthy and unhealthy with the bounding boxes.

Figure. 3. Output of YOLOV5 object detection model





(a) (b) (c) (d)

Figure. 4. Process of calculating the extent of damage

Using the Mask R-CNN object detection technique, the identification and progression stage determination of Nail disease was accomplished. This innovative method was developed to enable the accurate detection of nail diseases, including discolorations, which can be early signs of underlying health issues. The model was instructed using setups with a minimum detection loss of 0.05, two classes of images (one

with background and one without), 500 steps for each epoch, and six phases of validation. With these parameters, the model could detect the slightest abnormalities in nail discolorations, making it an excellent tool for early diagnosis. To calculate the proportion of the affected area by the nail disease, below formula (1) is used.

$$Disease\ Percentage = \frac{DA}{TA} \times 100\% \quad (1)$$

Where,
DA = area of disease
TA = area of the entire nail (nail plate)

The input image sizes for the model were set to 1024 x 1024 pixels. The images were then pre-processed to enhance their quality before feeding them to the model. Suspicious nail discolorations were submitted through a customized Mask RCNN model for detection after training. The model was trained on a large dataset of nail images with varying levels of discoloration, including healthy nails, to improve its accuracy. Using the Mask R-CNN model, nails were masked to isolate the nail from the rest of the image. This was done to enable the model to detect any abnormalities on the nail surface accurately. Background nails were removed using crop segmentation, which helped to eliminate any background noise in the images. The final result was a clean image of the nail surface, ready for further analysis.

To determine the full extent of nail disease damage, color segmentation was used. The HSV color palette was employed, including both green and brown colours, before using K-means. This helped to identify different colours in the nail discolorations, enabling the model to detect the presence of multiple types of nail diseases. One occurrence (pixel values) was substituted in the image data to improve the accuracy of the model. This substitution helped to reduce noise in the images, which could interfere with the model's ability to detect nail diseases accurately. With these modifications, the Mask R-CNN model could identify and classify different types of nail diseases with high accuracy.

One of the significant advantages of the Mask R-CNN technique is its ability to detect and classify multiple nail diseases in a single image accurately. This is particularly useful in cases where there are several types of nail diseases present, making it difficult for traditional methods to diagnose. The Mask R-CNN model can identify and segment each disease accurately, making it easier for medical professionals to diagnose and treat the patient. Furthermore, the Mask R-CNN technique can help medical professionals to detect nail diseases at an early stage, improving the chances of successful treatment. Early detection is critical in preventing the progression of nail diseases, which can lead to severe health complications if left untreated.

5. CONCLUSION AND FUTURE WORK

The proposed system can detect unhealthy nails in a hand, classify the nail disease and severity level, and the further system can predict the underlying systemic diseases and recommend the nearest hospital location. Deep learning models such as YOLO V5, CNN, Mask R-CNN and machine learning algorithms are used to determine the results. Nail diseases can be dangerous if not treated properly. In some situations require professional care from a doctor or dermatologist. The mobile application will make aware people who have nail diseases and help them to know more information about the diseases. In the future, the system's capabilities can be extended by developing models to identify more nail diseases and new features can be added for users to make appointments with doctors.

6. ACKNOWLEDGMENT

We would like to express our sincere gratitude to Dr. S. Sivapragasam MBBS, MD-Dermatology (Teaching Hospital Jaffna), Dr. V. Denish MBBS, MD-Dermatology (District General Hospital Trincomalee), Dr. K. Anushan MBBS, MD-Dermatology at BH Point Pedro and A.M. Ihthisham MBBS(R) Final Year Student (University of Peradeniya) for their invaluable contribution and support by providing critical guidance and feedback at throughout this research project.

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Publisher :
Association of Technology and Science
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E-ISSN 2319-7560