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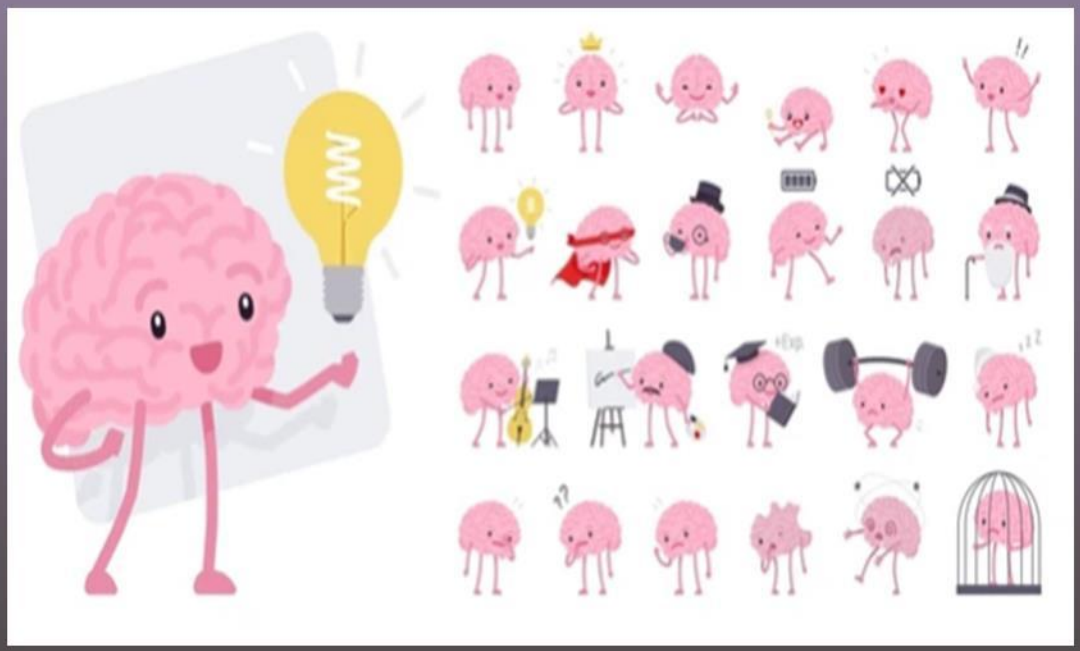

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APPLICATION OF ARTIFICIAL INTELLIGENCE TECHNOLOGY IN TEACHING, LEARNING, AND ASSESSMENT OF FOREIGN LANGUAGES IN HIGHER EDUCATION INSTITUTIONS IN VIETNAM

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Abstract: In the context of globalization trends and the strong development of artificial intelligence (A.I.) technology, the application of A.I. in higher education in Vietnam is emerging as a groundbreaking new trend, particularly in teaching, learning, and assessment of foreign languages. It is well known that A.I. can personalize the learning process, optimize teaching quality, and enhance students' learning experience. However, implementing A.I. also faces high costs, complex technical requirements, teacher and student resistance, and security and privacy issues. This research focuses on exploring the role of A.I. in improving the quality of foreign language education, thereby proposing specific A.I. applications. The study includes an analysis of A.I. concepts and components, the history of A.I. development, current A.I. trends in education, and A.I. applications in this field. By analyzing the benefits and challenges, the research also provides solutions to optimize the application of A.I. technology in foreign language education at today's higher education institutions in Vietnam.
Keywords: Artificial Intelligence (A.I.); Foreign language education; Higher education vietnam; Educational technology; Language assessment

1 INTRODUCTION

Technology is revolutionizing modern education by overcoming barriers of space and time, allowing learners to access online learning resources from anywhere and at any time. Online learning platforms and virtual reality provide rich and realistic learning experiences, helping students grasp knowledge and develop skills vividly and effectively.
Technology in education also fosters teamwork skills, creating opportunities for students to engage in online collaborative projects and enhancing their organizational abilities and critical thinking. For instance, millions of students worldwide have used Google Workspace as an Education tool for group work and remote collaborative projects, helping them develop collaboration and project management skills.
Artificial intelligence (A.I.) now plays a crucial role in personalizing learning paths, analyzing learning data, and providing instant feedback, allowing students to progress at their own pace and learning style. A digitized learning environment encourages creativity and autonomy, enabling students to experiment and develop ideas in a positive and innovative learning space.
It is evident that technology enhances the quality of teaching and learning in modern education and equips students with the necessary skills to succeed in an increasingly digital world.
In the context of the rapidly developing Fourth Industrial Revolution, technology in education has become a critical factor in improving the quality of teaching and learning in Vietnam. Technology helps enhance the effectiveness of knowledge transmission and equips the younger generation with the skills to face new challenges in modern society.
Information Technology (I.T.) has been transforming how we access and process information. The concept of "literacy" today encompasses the ability to read and comprehend texts and access and use technology [1]. This requires teachers to possess technological skills to convey knowledge effectively and creatively.
On August 23, 2023, the Minister of Education and Training of Vietnam signed Decision No. 2457, issuing the plan for key tasks and solutions for the 2023-2024 academic year. Under the theme "Solidarity, Discipline, Creativity, Continuing Innovation, Enhancing the Quality of Education and Training", the 2023-2024 academic year focuses on 12 key tasks and solutions, including "Promoting digital transformation and administrative reform across the entire sector" with a key solution being: enhancing digital transformation and the application of I.T. in management, teaching, and assessment. Simultaneously, the Ministry of Education and Training of Vietnam also encourages developing and exploiting big data and appropriate artificial intelligence solutions in education and training. This is an important task to improve education quality and meet society's increasing demands in the context of digital transformation.
According to the Prime Minister's decision in 2020 approving the "National Digital Transformation Program until 2025, with orientation to 2030", the entire sector must also promote the implementation of the National Digital Transformation Program. In this regard, the Ministry of Education and Training needs to strengthen the review, construction, and supplementation of the legal framework and develop guiding documents and directives to promote the

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application of I.T. and online education. Furthermore, collaborating with higher education institutions to build a national database on higher education is also an important part of this program.
Currently, I.T. has become an indispensable tool and learning environment in education. The application of technology in education improves the quality of teaching and learning and helps teachers innovate teaching methods to meet the demands of digital education. To achieve this, teachers need to be trained and equipped with I.T. and A.I. skills, enabling them to perform their teaching duties effectively in the modern context. By mastering technology, teachers will be able to fulfil their tasks and meet the new requirements of the education sector [2].

2 PAPER AND TEXT FORMAT

2.1 Definition and Role of A.I. in Language Education

The term “Artificial Intelligence” (A.I.) was first introduced in the 1950s, marking the birth of a new field of technical science in the computer technology industry. In computer science, A.I. is often used to describe computers or automated systems capable of performing intelligent functions, including learning from data, simulating, and solving complex problems.
Artificial Intelligence in Education (AIED) refers to the application of artificial intelligence technologies in education to enhance the quality and efficiency of the teaching and learning process. AIED aims to create personalized learning experiences and support educators in teaching and classroom management more effectively.

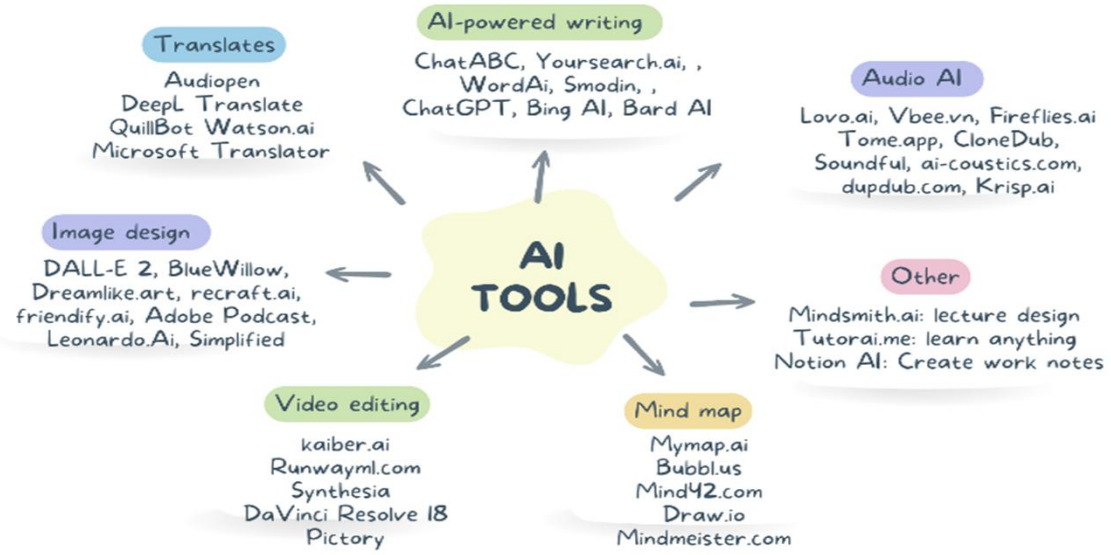

Figure 1 A.I. tools in teaching, learning, testing and evaluating foreign languages

The application of artificial intelligence in foreign language education is becoming increasingly crucial in optimizing the teaching and learning process and evaluating students' learning outcomes. It not only helps create intelligent learning systems but also supports the analysis and personalization of the teaching process based on the specific needs of each student. Here are some critical roles of A.I. in teaching, learning, and assessing foreign languages:
As an Intelligent Learning System
A.I. uses advanced technologies such as machine learning, data mining, natural language processing, and computer vision to develop intelligent learning systems. These systems can automatically analyze students' learning outcomes and suggest appropriate improvement outcomes.
AIEd sy can accurately assess students' learning
processes by analyzing data and applying A.I. technology. This enables instructors and learners to receive quick and detailed feedback, thereby improving learning efficiency.
Providing Customized Educational Content
A.I. delivers personalized educational content based on the specific learning needs of each student. This enhances interaction and learning efficiency in the foreign language learning process.

2.2 Objectives and Scope of the Study

Objectives of the Study: This research explores the role of Artificial Intelligence (A.I.) in teaching, learning, and assessing foreign languages at higher education institutions in Vietnam. The study will analyze specific applications of A.I. to propose several directions in which A.I. technology can be integrated into the teaching, learning, and assessing

of foreign languages to improve the quality of foreign language education for Vietnamese students in particular and the language learning community in general.
Scope of the Study: This research focuses on higher education institutions in Vietnam, where A.I. can be maximally applied to optimize foreign language teaching and learning. Based on the scope of the study, we will analyze and identify the challenges and opportunities that A.I. application brings to the foreign language education sector in Vietnam and higher education in general.

2.3 Research Methodology

2.3.1. Literature analysis method

Focus on collecting and analyzing research documents and reports from reliable sources regarding A.I. applications in foreign language education.
Use scientific literature, books, and previous studies to provide theoretical and practical context for A.I. applications in education.
Analyze research results, implemented models, and practical comparisons on the effectiveness of A.I. in teaching, learning, and assessing foreign languages.

2.3.2. Data collection and analysis from reliable sources

Collect data from higher education institutions and experts in foreign language education to better understand the current situation and practical needs of applying A.I. technology in teaching, learning, and assessing foreign languages in Vietnam.
Analyze the collected data to evaluate current trends and challenges in applying A.I. to foreign language teaching and learning.
Propose specific solutions and recommendations to optimize the use of A.I. in the higher education environment in Vietnam.

2.4 Overview of A.I. in Foreign Language Education

2.4.1 Concepts and components of A.I.

Basic concepts and components of artificial intelligence (A.I.):
The definition of A.I. defines it as the automation of tasks using autonomous mechanical and electronic devices equipped with intelligent control capabilities [3]. A.I. is not one thing but an umbrella term for a growing set of modelling capabilities . A.I. is classified into three main types: Artificial Narrow Intelligence (ANI), currently applied in tasks such as language translation and weather forecasting; Artificial General Intelligence (A.G.I.), envisioned as a future capability to solve complex problems autonomously; and Artificial Superintelligence (A.S.I.), a theoretical A.I. exceeding human capabilities across various domains [4]. As seen in Figure 2, the primary subfields of A.I. encompassing machine learning, knowledge-based systems, computer vision, robotics, natural language processing, automated planning and scheduling, and optimization are all pivotal in A.I. development (O'Brien, W.J. Fiatech, 2017).
A. I. is not one thing but an umbrella term for a growing set of modelling capabilities .

Figure 2 Components, types, and subfields of A.I., derived from [5]

Standard Algorithms and Techniques in A.I.: Artificial intelligence (A.I.) uses various algorithms and techniques to solve complex problems and improve performance. Below are some standard algorithms and techniques:
1) **Machine Learning**: Supervised Learning, Unsupervised Learning, Reinforcement Learning, Deep Learning.

2) **Artificial Neural Networks - ANN**: Deep Neural Networks – D.N.N., Convolutional Neural Networks – CNN, Recurrent Neural Networks - R.N.N.
3) **Knowledge-Based Systems**: Expert Systems, Case-Based Reasoning, Linked Systems, Intelligence Agents.
4) **Natural Language Processing - N.L.P**.: Language Models, Sentiment Analysis, Speech Recognition.
5) **Optimization**: Genetic Algorithms, Particle Swarm Optimization, Evolutionary Algorithms, Differential Evolution.
6) **Computer Vision**: Object Detection and Recognition, Image Segmentation.
7) **Automated Planning and Scheduling**: Automated Planning, Automated Scheduling.

These algorithms and techniques form the foundation for the development of A.I. and are widely applied in various fields, ranging from education, healthcare, and finance to industrial automation[6-7].

2.4.2 Development history and current trends of A.I. in education

Development History of A.I. in Education: The concept of "Artificial Intelligence" was first introduced by John McCarthy in 1956, marking the beginning of a new scientific field. Initially, A.I. research focused on simulating aspects of human intelligence and learning, aiming to create systems and machines capable of learning and processing information similarly to humans.

In the 1950s and 1960s, scientists began developing simple algorithms to solve fundamental problems, paving the way for significant advancements in A.I. development. By the 1970s and 1980s, A.I. had become an official field of study, involving many scientists and governments worldwide. The first A.I. applications in education appeared in chess systems and interactive teaching programs. Artificial Intelligence in Education (AIEd) emerged around the 1970s [8], focusing on researching, developing, and evaluating computer software to enhance teaching and learning. The long-term goal of AIEd is to gather learner feedback, assess abilities and weaknesses, personalize learning for individuals or groups, and use A.I. techniques to develop teaching and learning theories [9].

In the 1990s, the explosion of the Internet spurred the development of A.I., focusing on machine learning and related algorithms. In recent years, A.I. has become a rapidly developing field with significant advancements in educational applications. Modern A.I. systems can collect feedback from learners, assess abilities, and personalize the learning process. This technology has helped improve teaching and learning efficiency, providing better learning experiences for students.

2.4.3 Current and future trends of A.I. in foreign language education

Current Trends: A.I. is widely applied in various fields, from healthcare to finance, manufacturing, and education. In foreign language education, Intelligent Tutoring Systems (ITS) uses A.I. to provide personalized lessons and exercises, helping students grasp knowledge more effectively. Language learning applications such as Duolingo, Rosetta Stone, and Babbel use A.I. to analyze and adjust learning content based on each learner's progress and abilities. A.I. is also used to create virtual assistants, helping students practice languages through natural communication. These assistants can understand and respond to natural language, helping students improve their listening, speaking, reading, and writing skills. Additionally, A.I. assists teachers in assessment and grading, reducing workload and increasing accuracy.

Future Trends: With AI's development, concerns about its impact on society and humans exist. One of the main concerns is replacing humans in traditional jobs, leading to unemployment for low-skilled workers. Cybersecurity concerns exist, mainly when A.I. systems are used in sensitive fields like finance and the military.

However, these issues are being addressed with technological advancements and efforts from the A.I. research community. Researchers and governments are working to ensure that the development of A.I. benefits people and society. According to Björn Sjödén, technology should not be used to model human characteristics perfectly, such as communication abilities or intelligence, but only enough to evoke social schemas that engage students in effective learning interactions. “In the near future, we may not see the widespread appearance of 'robot teachers' completely replacing the role of human teachers, but by researching and implementing products using 'machine intelligence' as we do now, the teaching and learning process has already begun to see positive changes.” [10].

In the future, A.I. is expected to continue developing and expanding its applications in foreign language education. Advanced technologies such as Conversational A.I. will be used to create more interactive and realistic teaching models. Virtual Reality (V.R.) and Augmented Reality (A.R.) combined with A.I. will bring dynamic and engaging learning experiences. It is essential to ensure that the development of A.I. goes hand in hand with the development of humans and society, ensuring safety and progress for the entire world.

2.4.4 Global applications of A.I. in language education

Applications of A.I. in Foreign Language Education Worldwide: Applications of A.I. in Foreign Language Education Worldwide Artificial Intelligence (A.I.) is increasingly significantly enhancing teaching and learning processes in foreign languages, especially in higher education institutions. A.I. technologies offer valuable solutions that improve teaching and learning efficiency, creating rich and personalized learning experiences. Here are some critical applications of A.I. in foreign language education:

1) **Intelligent Tutoring System - ITS:** Language learning platforms like Duolingo use A.I. to customize learning paths for individuals. These systems can adjust lessons based on learners' progress and abilities, providing instant feedback on grammar and pronunciation. This optimizes the learning process and ensures that each learner progresses uniquely.
2) **Natural Language Processing (N.L.P.):** N.L.P. technology is widely used in applications like Grammarly, assisting learners in checking and improving grammar, spelling, and writing style. This is particularly useful for writing essays, assignments, and emails, effectively enhancing writing skills.

3) **Learning Analytics:** Educational platforms like Coursera track learners' progress and performance using learning analytics. A.I. technology helps identify learners' difficulties and suggests timely support measures, thereby improving the quality of teaching and learning.
4) **Computer Vision:** Computer Vision is applied in applications like Kahoot! to recognize and analyze students' facial expressions during online classes. This helps teachers assess students' attention and interest levels, allowing them to adjust teaching methods accordingly.
5) **Customized Learning Content:** Applications like Quizlet and Memrise use A.I. to create exercises and learning games tailored to each student's level and learning needs. This helps create a flexible and interactive learning environment, allowing learners to engage with real-life contexts and improve their language skills.
6) **Automated Testing and Assessment:** A.I. technology is also used in the automatic scoring of language tests, such as those in Pearson, ensuring objectivity and accuracy in assessments. It provides detailed grammar, vocabulary, and sentence structure feedback, helping learners identify corAI's benefits. The applications of A.I. in foreign language education have opened up many new opportunities, improving the quality of teaching and learning. However, investment in technological infrastructure and training for teachers and students on effectively using A.I. tools is essential to leverage the benefits that A.I. brings fully.

Case Studies from Other Countries:

1) **AlphaFold 2:** In 2020, DeepMind announced AlphaFold 2, a significant breakthrough in protein structure prediction. This algorithm solved one of the most significant challenges in molecular biology over the past half-century: the ability to accurately predict the three-dimensional structure of proteins from basic chemical information, thereby providing crucial insights into their biological functions. AlphaFold 2 was trained on a public database containing information from approximately 170,000 proteins with known structures. This technology utilizes 128 TPUv3 cores (equivalent to 100-200 GPUs), enabling efficient and rapid computations. One of AlphaFold 2's notable achievements is the successful prediction of the structures of previously unknown proteins, such as the ORF3a and ORF8 proteins of the SARS-CoV-2 virus [11].
2) **DALL-E by OpenAI:** In 2021, OpenAI achieved a significant milestone with the development of technology to generate images from text descriptions, known as DALL-E. This neural network allows the creation of high-quality images of abstract and even non-existent objects by combining unrelated features and applying them to existing images. Based on the G.P.T. -3 algorithm, DALL-E was trained on a large dataset of 650 million images and their corresponding text captions. DALL-E is not just a tool for image creation but also can combine different concepts, attributes, and styles to make interesting edits to user-provided images. The system can also recognize and recreate different versions of images inspired by the original, expanding its creative potential and applications across various fields [12].
3) **G.P.T. -4:** On July 6, 2023, the research team from OpenAI published a paper introducing G.P.T. -4, a next-generation advanced natural language processing system. With a significant parameter increase to 600 billion, G.P.T. -4 surpasses G.P.T. -3 in processing and generating natural text. The unique aspect of G.P.T. -4 is its ability to engage in deeper self-learning from large datasets, significantly improving context analysis and generating more logical and human-like text. This technology can be widely applied in fields ranging from content creation and automated translation to complex data analysis and decision support. Although it brings many benefits, G.P.T. -4 presents ethical challenges and data privacy concerns, mainly when applied in sensitive areas such as healthcare and the judiciary [13].

2.5 Application of A.I. in Teaching, Learning, and Assessment of Foreign Languages

2.5.1. Benefits of using A.I. in foreign language education

Optimization of Learning Processes: A.I. brings the ability to personalize the learning process for each student. Research has shown that students' emotions, such as confidence, boredom, confusion, stress, and anxiety, strongly affect academic performance [14-15]. In traditional education, students always have to follow a common learning path, whether or not they have mastered the knowledge, leading to many students having knowledge gaps. A.I. has helped to address this issue by personalizing the learning path based on each student's ability and level. With the support of technologies such as machine learning and data mining, A.I. helps teachers identify students' proficiency and reset appropriate learning methods and paths . This helps minimize the issue of knowledge gaps and learning losses.

Enhancement of Teaching Quality: A.I. improves teaching quality by analyzing data and providing regular feedback to students. A.I. tools such as chatbots can be helpful in education, allowing students to interact and ask questions about their field of study [15]. Therefore, A.I. can sometimes replace teachers, saving students time and cost. With the help of A.I., teaching and learning can take place anywhere, anytime, meeting the learning needs of each individual [10].

In addition to providing regular feedback, A.I. significantly reduces teachers' workload. Instead of manually grading, planning lessons, and preparing teaching materials, A.I. can automate these tasks. Teachers can know each student's level without testing, and grading becomes more accessible thanks to A.I. Therefore, teachers have more time to care for and support students, improving teaching quality and creating a better and more positive learning environment.

Improvement of Student Learning Experience: A.I. makes learning more engaging by simulating experiments, movements, and other phenomena, giving students a more realistic learning experience. For example, medical students can use virtual reality (V.R.) technology to practice complex surgeries without risking actual patients. Similarly, Perceptual Learning Modules (P.L.M.) software supports students in learning mathematics by providing opportunities

to detect patterns in similar problems rather than just teaching rules and problem-solving procedures, thereby effectively improving students' pattern recognition and problem-solving skills.

2.6 Challenges and Limitations in Implementing A.I.

Error Potential: A.I. is not a perfect solution and can encounter errors or mistakes in the evaluation and grading process. Although large language models like G.P.T. -3 can learn from a small amount of data (few-shot learning), they can still generate misleading or inaccurate information because they do not truly "understand" the information they produce [16]. When applied to foreign language education, this can lead to errors or mistakes in the evaluation and grading process.
Technical and Financial Barriers: The implementation of A.I. in education requires high costs and technical demands. Currently, the application of A.I. in education mainly comes from the private sector and large companies such as Pearson, McGraw-Hill, I.B.M., Knewton, Cerego, Smart Sparrow, Dreambox, LightSide, or Coursera [10, 17]. In Vietnam, A.I. has not yet been widely used in education. Implementing A.I. in educational institutions faces many difficulties due to a lack of technical infrastructure and funding. Moreover, few A.I. products have been specifically researched and developed for teaching, which poses challenges to applying A.I. in education.
Resistance from Faculty and Students: Teachers and students also need to improve the implementation of A.I. Teachers need to update their knowledge of A.I. and related technologies to use them effectively in teaching. This can lead to changes in teaching and learning methods, causing teacher resistance. Students may also need help using A.I. technology due to its complexity and lack of real interaction. In some cases, such as during the COVID-19 pandemic, the loneliness from the lack of interaction with teachers and peers can affect students' communication abilities and soft skill development.
Security and Privacy Issues: The development of A.I. in education must prioritize ethical data collection, analysis, and usage issues. Privacy and data security are significant challenges in applying A.I. in education today, especially when using students' data. The collection and use of personal data must be based on explicit and informed consent, ensuring transparency and fairness [17]. Since the primary focus of education is young students, protecting their data and privacy becomes even more challenging as they may not be able to provide explicit consent for collecting and using their data [10].
A.I. offers significant educational potential, particularly in teaching, learning, and assessing foreign languages. However, the implementation of A.I. also faces many challenges and limitations, from error potential, high costs, and technical requirements, to resistance from teachers and students, and ethical issues in data collection and usage. To fully harness the potential of A.I. in education, coordinated efforts from researchers, teachers, students, and educational administrators are needed to overcome these challenges and limitations..

2.7. Proposals for Applying A.I. in Vietnamese Higher Education for Foreign Language Instruction

2.7.1 Effective strategies for implementing A.I.

Training and Support for Faculty and Students: To accelerate and enhance the practical application of A.I. in foreign language education at university institutions, schools need to collaborate with leaders and industry experts to implement and organize regular teacher training programs. These training sessions provide opportunities for teachers to meet, exchange, and share experiences in applying A.I. to improve their professional management and teaching performance.
Various Vietnamese universities have organized many seminars on applying A.I. in language teaching. University of Languages and International Studies – Vietnam National University, Hanoi: Organized a training workshop on "Application of Artificial Intelligence (A.I.) in Teaching, Learning, and Assessing Foreign Languages" for their faculty members. Foreign Trade University: Held a scientific seminar on "Using Artificial Intelligence (A.I.) in Foreign Language Teaching at Higher Education Institutions." Thuy Loi University: Hosted a seminar on applying A.I. in teaching English skills to more than 40 language lecturers from Thuy Loi University and other universities in Hanoi, including University of Labor and Social Affairs, Phenikaa University, Posts and Telecommunications Institute of Technology, Academy of Finance, Hanoi National University of Education, and Vietnam University of Fine Arts. Ninh Binh Department of Education and Training: Organized training on applying A.I. in school management and guided teachers in designing online lessons using A.I. tools such as ChatGPT, Gamma A.I., and Slidesgo. Such training sessions need to be increased to speed up the application of A.I. in foreign language education at university institutions in Vietnam.
On the students' side, most current language primary students primarily use A.I. tools for vocabulary lookup, translation, and explanation of specialized terms . Among the languages, English is the most commonly applied because it is a global language, and most A.I. applications are developed by English-speaking countries, making the information more reliable than less commonly used languages like Chinese, Korean, Japanese, Thai, etc. However, students' approach to using A.I. is still limited, mainly through self-study or short tutorial videos on YouTube, without specific school guidance and training. This can lead to incorrect approaches, such as over-reliance on A.I., misuse of A.I., and ineffective query input methods. Additionally, students are not fully equipped with the skills to verify and validate information provided by A.I., leading to the absorption of incorrect or outdated knowledge. For instance, research from M.I.T. Press Direct has shown that A.I. models often operate based on extensive training datasets. Since the vast size of the data cannot be verified manually one by one, it is inevitable that training datasets contain misinformation, resulting

in models suggesting incorrect information and knowledge to learners [18]. This is especially important in foreign language teaching, where the accuracy of information is crucial for student progress.

To effectively apply A.I. in foreign language teaching, schools need to conduct in-depth training sessions for students on proper A.I. usage. These sessions should focus on explaining A.I. limitations, identifying and verifying misinformation, and proper and effective A.I. application methods in learning. By doing so, schools can help avoid misinformation, increase learning and research accuracy and effectiveness, and create a safe and reliable learning environment for students.

Technology Investment: To accelerate the application of A.I. in foreign language education, the government must address the issue of equitable access to A.I. for all students and teachers. Due to socioeconomic disparities, students from underprivileged backgrounds often have less access to modern technology and data resources compared to their wealthier peers, leading to increased educational inequality. At the 5th ASEAN+3 Educatiowith limited I.T. facilities 2022, Vietnam's Minister of Education and Training, Nguyen Kim Son, emphasized the need for an equitable and accessible education system for all learners.

To ensure equal access to A.I. in foreign language education, the government should invest in developing I.T. infrastructure in all universities, especially in remote areas with limited I.T. facilities. Schools should also provide free accounts for students to access A.I. applications, preventing financial disparities from affecting the quality of education. Additionally, schools must train and build a knowledgeable workforce to support teachers and students in addressing AI-related issues.

Continuous Evaluation and Improvement: Implementing A.I. in foreign language education requires continuous educational program evaluation to keep pace with rapid technological advancements. Schools must establish clear criteria and evaluation metrics to measure A.I.'s impact on teaching performance and student learning outcomes. To ensure fair language competency assessments, evaluations should focus on cognitive, analytical, and practical language skills, preventing A.I. from disproportionately influencing assessment results.

Moreover, many A.I. applications collect user data during interactions, which can help schools understand A.I. usage trends among teachers and students. However, more than relying solely on A.I. data is required for comprehensive evaluation. Regular feedback from teachers and students is essential for a holistic view, enabling timely adjustments to enhance teaching and learning quality. Continuous software and algorithm updates are also necessary to maintain A.I. systems as modern and practical tools in foreign language education.

Supporting Policies and Regulations: Vietnam needs more specific policies on using A.I. in foreign language teaching at universities. However, according to the A.I. Readiness Index 2023 by Oxford Insights, Vietnam ranks 5th among ASEAN countries and 9th in East Asia in government A.I. readiness, indicating positive efforts towards A.I. development. The Vietnamese Government's national strategy for A.I. research, development, and application until 2023 underscores the importance of A.I. in education, including predicting job market demands, automating teaching processes, and personalizing learning.

Future government policies should support A.I. application in foreign language education at universities, recognizing its critical role in enhancing students' competitive advantages in the global job market. Policies should be aligned with international guidelines, such as UNESCO's A.I. and education policy framework, emphasizing human-centred A.I., equality, transparency, and data security.

Regulatory agencies and educational institutions must collaborate to expedite A.I. adoption in foreign language education. Regulatory bodies should provide funding, technology, and training resources, supporting research, data collection, and A.I. training institutions. Educational institutions' experiences and data are crucial for developing effective policies and standards for ethical and equitable A.I. implementation.

2.7.2 Building a digital learning culture

Digital learning is familiar to students and teachers at Vietnamese universities, especially post-COVID-19. Integrating e-learning systems into curricula enables flexible learning opportunities, enhancing education quality. By fostering a digital learning culture, universities can encourage using advanced technologies, including A.I., to improve foreign language learning experiences.

Familiarity with digital learning environments makes A.I. integration more natural and effective. A.I. can be embedded in e-learning systems to provide functions like automated grading and feedback, helping students improve their language skills. Additionally, digital learning culture helps teachers become adept at creating digital materials, recording lectures, and designing online exercises and tasks that A.I. can assist with, reducing workload and allowing teachers to focus on imparting knowledge and passion for language learning.

Although the development of a digital learning culture plays a significant role in accelerating the adoption of A.I. in education, many teachers still need to be more open to using A.I. due to psychological barriers. These barriers include a lack of experience with I.C.T. as learners, lack of motivation, struggle to integrate I.C.T. with their existing teaching styles and practices, feeling out of their comfort zone, fear of losing a dominant position in the classroom, fear of weakening control over students, and the concern of losing students' respect. Not only teachers but many students also express psychological concerns when using A.I. in language learning. Phuong's research indicates that students often distrust AI-generated results for assignments requiring high creativity or worry about the potential for errors or misleading suggestions, which could lead to mistakes in the learning process. Issues related to plagiarism are also noteworthy concerns that make students hesitant to use A.I., as A.I. usage may result in the unintentional submission of similar essays among students. Furthermore, many students express concerns about over-reliance on A.I. tools in their

studies. This dependence could discourage critical thinking and delay the development of personal thoughts and ideas, impeding creativity and language development.

To enhance the feasibility and effectiveness of applying A.I. in the language education system in Vietnam, schools need to establish various extensive training and guidance programs aimed at equipping skills for using and integrating A.I. in teaching and learning and helping teachers overcome psychological barriers when using A.I. More importantly, these programs must help teachers recognize that A.I. is not replacing humans but a supportive tool that optimizes the teaching process and provides critical student data. Additionally, students should be encouraged to use A.I. as a supportive tool in their learning process rather than relying solely on it for academic success. Training sessions should emphasize the benefits and potential risks of improper A.I. application, providing teachers and students with a comprehensive perspective and appropriate considerations for using this technology to enhance educational quality.

3 DISCUSSION

Artificial intelligence (A.I.) is pivotal in revolutionizing foreign language education, offering numerous benefits that enhance teaching and learning experiences. One of A.I.'s significant contributions is its ability to personalize learning paths tailored to individual student needs. Traditional education often follows a uniform approach that may not cater to each student's unique pace or learning style, leading to knowledge gaps and varying levels of comprehension. A.I. addresses this challenge by leveraging technologies such as machine learning and data mining to assess student proficiency levels accurately. This enables educators to adjust teaching methods and materials accordingly, ensuring each student receives targeted support and guidance.

Moreover, A.I. enhances teaching quality by automating routine tasks such as grading assignments and providing real-time feedback to students. By analyzing large volumes of data, A.I. can identify learning patterns and areas where students may need additional assistance, thus allowing teachers to focus more on personalized instruction rather than administrative tasks. This shift improves efficiency and fosters a more supportive learning environment where students feel empowered to explore and learn at their own pace.

Furthermore, A.I. enriches the learning experience by introducing interactive and immersive elements. AI-driven platforms can create personalized learning modules that adapt to students' progress, offering interactive exercises and simulations that engage and motivate learners.

In essence, A.I.'s integration into foreign language education holds promise for transforming traditional teaching paradigms into dynamic, personalized learning experiences. By leveraging A.I. technologies, educators can better meet the diverse needs of students, improve teaching effectiveness, and create a more engaging and interactive educational environment that prepares learners for the challenges of a globalized world.

The proposed integration of artificial intelligence (A.I.) into foreign language education at Vietnamese universities shows strong feasibility. It focuses on training teachers in A.I. tools, enhancing technological infrastructure for interactive learning, and implementing AI-driven assessment systems. These initiatives aim to personalize learning, improve educational outcomes, and foster innovation in educational practices. With supportive policies and international collaboration, this approach promises to revolutionize language education in Vietnam, aligning it with global educational advancements.

4 CONCLUSION

The application of artificial intelligence (A.I.) in foreign language education is gaining global traction. Still, it needs to be improved in Vietnam as the government seeks suitable directions for its implementation. Currently, A.I. is utilized in some schools primarily through applications such as Intelligent Tutoring Systems (Duolingo), Natural Language Processing (Grammarly), Learning Analytics on Platforms (Coursera), Computer Vision (Kahoot)... These AI-driven platforms significantly optimize learning processes by personalizing education for each student, enhancing teaching quality through data analysis and feedback mechanisms, and improving student learning experiences by simulating real-world scenarios. However, A.I. adoption faces challenges such as error potentials in evaluation processes, high technical and financial demands, and resistance from educators and students who require updated knowledge and skills.

Collaboration between educational institutions and the Ministry of Education in A.I. training programs for students and teachers is crucial to address these challenges. These programs educate on A.I. use in education and help overcome governmental barriers. Investment in I.T. infrastructure by schools, supported by government policy and guidelines on A.I. application in education, is essential to ensuring equitable access to A.I. for students and educators while ensuring transparency, fairness, and user safety. This collaborative approach aims to mitigate challenges, foster effective A.I. integration in education, and pave the way for a more inclusive and innovative learning environment in Vietnam.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

REFERENCES

[1] Kellner D. Technological revolution, multiple literacies, and the restructuring of education. In I. Snyder (Ed.), Silicon literacies. Routledge. 2002: 154-169.

[2] Ministry of Education and Training. Guidelines for implementing I.C.T. tasks in the academic year 2012-2013. Ministry of Education and Training, issued on August 2, 2012. Hanoi: Ministry of Education and Training.
[3] Regona M., Yigitcanlar T., Xia B., Li R.Y.M. Opportunities and adoption challenges of A.I. in the construction industry: A PRISMA review. Journal of Open Innovation: Technology, Market, and Complexity, 2022, 8(1): 45. https://doi.org/10.3390/joitmc8010045
[4] Bughin J., Hazan E., Ramaswamy S., Chui M., Allas T., Dahlstrom P., Trench M. Artificial intelligence: The next digital frontier. McKinsey Global Institute. 2017.
[5] Nguyen V L. Application of information technology in teaching foreign languages: From international experience to reality in Vietnam. Journal of Education Research, Hanoi National University: Education Research, 2016, 32(2): 36-47.
[6] Bhardwaj M., Kumar S. Scope of computer integrated manufacturing (C.I.M.) in future technology as artificial intelligence. Journal of Advanced Research in Electrical and Electronics Engineering and Technology, 2021, 7: 16-20.
[7] Greco, M., Grimaldi, M., Locatelli, G., Serafini, M. How does open innovation enhance productivity? An exploration in the construction ecosystem. Technological Forecasting and Social Change, 2021, 168, 120740. https://doi.org/10.1016/j.techfore.2021.120740
[8] Judy K. Whither or wither A.I. and education? In Seventeenth International Conference on Artificial Intelligence in Education (AIED 2015 Workshop Proceedings). 2015, 4: 1-10. Retrieved from http://users.sussex.ac.uk/~bend/aied2015/
[9] Beverly PW. A.I. and education: Celebrating 30 years of marriage. In Seventeenth International Conference on Artificial Intelligence in Education (AIED 2015 Workshop Proceedings). 2015, 4: 38-45. Retrieved from http://users.sussex.ac.uk/~bend/aied2015/
[10] Dinh TMH., Tran V H. Artificial intelligence in education: Opportunities and challenges for the future of teaching and learning at universities. Journal of Science and Technology - University of Da Nang, 2021, 19(2): 38-42. https://doi.org/10.12002/j.bisu.272
[11] DeepMind. AlphaFold: Using A.I. for scientific discovery. Journal of Artificial Intelligence Research, 2020, 47(1): 135-154.
[12] OpenAI. DALL-E: Creating images from text. In Proceedings of the International Conference on Machine Learning, 2021: 107-118.
[13] OpenAI. G.P.T. -4: Advancing natural language processing with enhanced parameter size and contextual understanding. Journal of Artificial Intelligence Research, 2023, 45(2): 289-304.
[14] Goleman D. Emotional intelligence: Why it can matter more than I.Q. Bloomsbury. 1966.
[15] Kowalski S., Hoffman R., Jain R., Mumtaz M. Using conversational agents to help teach information security risk analysis. In SOTICS 2011: The First International Conference on Social Eco-Informatics. 2011. Retrieved from www.thinkmind.org/download.php?
[16] Tom Brown, Benjamin Mann, Nick Ryder, Melanie Subbiah, Jared D Kaplan, Prafulla Dhariwal, Arvind Neelakantan, Pranav Shyam, Girish Sastry, Amanda Askell, Sandhini Agarwal, Ariel Herbert-Voss, Gretchen Krueger, Tom Henighan, Rewon Child, Aditya Ramesh, Daniel Ziegler, Jeffrey Wu, Clemens Winter, Chris Hesse, Mark Chen, Eric Sigler, Mateusz Litwin, Scott Gray, Benjamin Chess, Jack Clark, Christopher Berner, Sam McCandlish, Alec Radford, Ilya Sutskever, Dario Amodei. Language models are few-shot learners. 2020. arXiv preprint arXiv:2005.14165v4. Retrieved from https://arxiv.org/abs/2005.14165
[17] Francesc Pedro M., Subosa R., Rivas A., Valverde P. Artificial intelligence in education: Challenges and opportunities for sustainable development. United Nations Educational, Scientific and Cultural Organization. 2019.
[18] Hua S., Jin S., Jiang S. The limitations and ethical considerations of A.I. in education. Digital Intelligence, 2023, 6(1): 201-218. https://doi.org/10.1162/dint_a_00188

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APPLICATION OF MASLOW'S HIERARCHY OF NEEDS THEORY IN HUMAN RESOURCE MANAGEMENT AT HIGHER EDUCATION INSTITUTIONS IN VIETNAM

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Abstract: Maslow's theory of needs presents a hierarchical structure wherein needs are arranged in a sequence that advocates for their successive fulfilment. The theory has a significant impact on economic growth, the prioritization of development initiatives, the formulation of policies and social programs, and human resource management. Maslow's hierarchy of needs stands out as a cornerstone theory in psychology. Moreover, its application in human resource management is particularly crucial, serving as a valuable tool for managers to optimize the utilization of human resources efficiently. In Vietnam, effective management of human resources within higher education institutions, particularly those about teaching and scientific research, holds significant importance as it directly influences the achievement of all university objectives and responsibilities. This study proposes to explore the application of Maslow's hierarchy of needs framework in the context of human resource management within Vietnamese higher education institutions. It aims to demonstrate that fulfilling employees' physiological needs represents the foundational requirement for ensuring their motivation. At the apex of these needs lies the employees' aspiration for self-realization and personal growth.
Keywords: Maslow's hierarchy of needs; Educational; Higher education; HR

1 INTRODUCTION

Globalization, international competition, innovation, and technological advancements have highlighted the critical role of human resource management (HRM) in gaining a competitive edge. Bontis posits that human capital might be an organization's only sustainable competitive advantage in the dynamic and globalized world. Hasani and Sheikesmeili further assert that human capital has become more crucial than new technologies or financial and material resources[1-3]. Due to the evolving nature of work, driven by technological, organizational, and competitive shifts, organizations continually face challenges in attracting and retaining a sufficient pool of qualified employees. Barney and Wright emphasized that strategic human resource management (SHRM) has gained prominence in the 21st century's knowledge-based economies, where employees are essential for achieving competitive advantage. Research by Lawler and Mohrman and Subramony supports the idea that SHRM fosters higher commitment and lower employee turnover[4-6]. However, much of the existing literature focuses on business contexts, leaving a significant gap regarding HRM practices in higher education. Previous studies show a need for sufficient research on the relationship between HRM practices in higher education institutions despite the labour-intensive nature of this sector, where effective human resource utilization is vital.

Vietnam needed to enhance its educational system in the context of deep international integration. To address this, on April 19, 2000, Vietnamese Prime Minister Pham Minh Chinh issued Decision No. 322/QD-TTg, approving Project 322 to train scientific and technical staff in foreign countries using the state budget. Following the conclusion of Project 322, on June 7, 2010, Vietnamese Prime Minister Pham Minh Chinh approved Project No. 911/QD-TTg, which focused on training lecturers with doctoral degrees for universities and high schools during the 2010-2020 period. This project aimed to add 23,000 new PhDs by 2020, with 10,000 domestically trained, 10,000 trained abroad, and 3,000 through coordinated training. Currently, the Ministry of Education and Training is implementing Decision No. 89/QD-TTg, dated January 18, 2019, to improve the capacity of lecturers and managers of higher education institutions from 2019 to 2030. This initiative aims to build a high-quality team of lecturers and managers to meet the comprehensive innovation requirements in education and training, align with the Fourth Industrial Revolution, and foster entrepreneurship and innovation.

These initiatives have yielded significant results. Faculty members, staff, and students involved in these projects have acquired proficient foreign language skills, enhancing their professional competence. They actively contribute to innovating textbooks, curriculum development, and instructional methodologies. Utilizing advanced teaching approaches and engaging in collaborative research initiatives, they support Vietnamese universities in progressively implementing innovation across undergraduate and postgraduate educational institutions.

Despite these achievements, the number of teaching staff with doctoral degrees needs to be further increased. In the early years of educational reform, the proportion of teaching staff with doctoral degrees in higher education in Vietnam needed to be improved. By 2020, the higher education sector included 848 managers and 73,132 full-time lecturers, of

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which 0.74% were professors, nearly 6% were associate professors, 30% held doctoral degrees, and 60% had master's degrees.

The increasing number of lecturers with doctoral degrees underscores the need for effective human resource management (HRM). With HRM, the growth of the teaching staff and the research team can be sustained. New challenges arise, especially in the context of innovative education, necessitating robust HRM practices.

On this basis, applying Maslow's hierarchy of needs in HRM is considered a new initiative. This approach can help address the needs of lecturers and staff, fostering a supportive and motivating work environment. Consequently, this will enhance the overall quality of education and research, aligning with the goals of comprehensive educational innovation.

The resolution explicitly acknowledges higher education's vital role in producing the highly skilled labour force that the nation needs to accomplish its developmental objectives and remain competitive on the world stage. It lays out a comprehensive strategy that involves expanding training facilities, creating a balanced career and training level structure, and finishing up a cohesive network of higher education institutions. This strategy is well-positioned to meet the changing demands of technological advancement, various fields and occupations, and the overarching goals of national defence and international integration. The resolution prioritizes improving the quality of human resources, developing talents, and promoting learner competency.

However, there are several obstacles to Resolution No. 29-NQ/TW's implementation, especially in light of higher education innovation. These challenges highlight the need for creative teaching methods to support the desired change. Adopting the Blended Learning paradigm, which combines conventional pedagogical approaches with state-of-the-art online learning tools, is a viable way to support this transition. The objectives stated in Resolution No. 29-NQ/TW can be achieved by the thoughtful integration of this model within Vietnam's higher education system .

The Blended Learning model can significantly improve the quality of education because of its hybrid design, which provides a dynamic and adaptable learning environment. It makes it possible to tailor learning experiences, consider different learning preferences, and create a dynamic and exciting learning environment. Moreover, this model is conducive to cultivating students' critical thinking skills, problem-solving abilities, and propensity for lifelong LEARNING. The Blended Learning model can catalyze novel learning opportunities by integrating the best aspects of face-to-face instruction with the advantages of online learning platforms. These possibilities are critical to helping Vietnam achieve its social development and international integration goals by giving students the knowledge and skills they need to prosper in a world that is changing quickly.

In conclusion, Vietnam must strategically implement the blended learning paradigm in higher education; it is not only an option. It is a proactive strategy that can significantly aid in achieving the objectives of education reform stated in Resolution No. 29-NQ/TW. Vietnam can guarantee the delivery of a high-quality education that is responsive to the demands of the twenty-first century by adopting this approach, setting the groundwork for the nation's future development and integration into the international community.

2 PAPER AND TEXT FORMAT

2.1 Overview of Maslow's Hierarchy of Needs

A renowned social scientist, Maslow, developed the human needs theory in the 1950s. His theory aimed to explain how specific human needs must be met for an individual to lead a healthy and beneficial physical and mental life. His work is primarily encapsulated in his book *Motivation and Personality*, where he first introduced the hierarchy of needs [7].

Maslow's theory aids our understanding of human needs by identifying a hierarchy of needs. He categorized different types of human needs based on their demands and the order of their origin into five types, arranged into a hierarchy from low to high. This five-stage model, often illustrated as a pyramid, can be divided into deficiency and growth needs. The first four levels are called deficiency needs (D-needs), which include physiological, safety, love and belonging, and esteem needs. The top level, self-actualization, is a growth or being need (B-need)[7].

Maslow's hierarchy has been widely influential in psychology, education, and business, providing a framework for understanding human motivation and development [8].

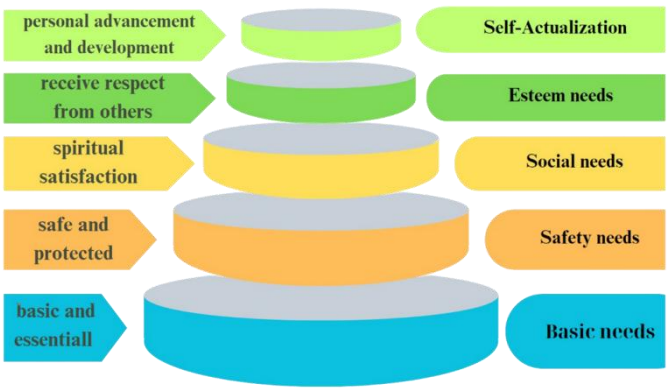

Figure 1 Maslow's hierarchy of needs

Physiological Needs: Physiological Needs are humans' most basic and essential needs, including food, water, air, sleep, clothes and shelter. These are needs that, if not fully met, will seriously affect human health and survival. Meeting physiological needs is a prerequisite for humans to survive and develop. Physiological needs are at the bottom level. According to Maslow, only when meeting this level of physiological needs can each person reach the following levels in the pyramid model.

Safety Needs: Safety Needs are the need to feel safe and protected from possible dangers. This need includes physical, mental and social safety. The need for safety is the second level in Maslow's hierarchy of needs. This need includes Physical safety, which Includes needs such as having a safe place to live and protection from food, water, health and environmental risks. People need to feel that they and their families are protected from the risks of disasters and property damage. Mental safety: These are the needs to feel mentally and socially safe. People need to feel that they are not threatened by conflict, violence or mental instability. They want a stable and safe social environment to develop and express themselves. Social safety: The need to be protected from social dangers such as violence, injustice, etc. People will begin to care about other needs when physiological needs are met. Ensure safety. Meeting safety needs will help people feel secure and comfortable, from which they can focus on developing higher needs. Meeting safety needs is essential for people to live and develop peacefully and happily.

Social Needs (Love/ Belonging Needs): After satisfying physical needs, each person will want to meet spiritual needs. At this third level, spiritual satisfaction begins to appear. This need is the desire to expand relationships such as family, love, friends, ...in order to eliminate the feeling of loneliness and sadness when being alone, bringing familiarity, closeness, and sharing. For example, A new employee will be concerned about the salary to meet the needs for accommodation, food, warm clothing, etc., then consider whether the working environment is safe and whether there is adequate work. Insurance no. When satisfied, the individual will expand social relationships with colleagues and customers to integrate and perform work more effectively.

Esteem Needs: Esteem needs in Maslow's hierarchy of needs represent the desire to receive respect from others. At this level, each person will constantly strive to receive respect from the outside. The most obvious manifestations of this need include a desire for reputation and respect from the outside, reputation, status, and level of success. Self-esteem: Expressed in a person who values personal ethics and respects dignity. If people lack self-esteem, they will feel guilty and worried when they encounter difficulties in everything. When receiving respect and recognition from outside, individuals will feel more confident and respectful. With this level, each individual will know how to strive to develop in every way to advance in work and life.

Self-Actualization Needs: Self-actualization needs are at the highest level in Maslow's hierarchy of needs, representing personal advancement and development to reach the peak of each person's potential. This position appears when the other four levels have been satisfied. However, there is a difference from the previous four needs; that is, it does not appear as a lack but originates from the desire for the development of each person. The need to express oneself is often found in people with specific achievements and successes. When they want others to see their intelligence, potential and development, they will do everything to satisfy their passion and find their values. Maslow believes that to understand the level of this need, the individual must not only achieve the desires of his subordinates but must also master these. The human purpose of satisfying this top need is to ensure and maintain the four needs below it.

2.1.1 Concepts and components

Abraham Maslow, an American professor of psychology, is hailed as one of the pioneers in studying human psychology. [9]. Published in his 1943 paper "A Theory of Human Motivation", the psychologist put forward Maslow's Hierarchy of Needs, extending his research on humans' innate curiosity. The theory is a categorization scheme meant to represent the needs of society as a whole. Maslow focused on how people might improve their motivations and aspirations and realize their full potential .

According to Maslow [7] human wants are arranged into hierarchies of ascendancy, and often, the satisfaction of one need predisposes the manifestation of another higher-priority need. Despite not being presented in a diagrammatic format by the creator, Maslow's hierarchy of needs is commonly represented as a pyramid, with the desire for self-actualization and Transcendence at the top and the most basic needs at the base. The theory is divided into deficiency needs and growth needs, involving two primary themes: individualism and the priority of needs [10]. The hierarchy is still widely used in various sectors, such as higher education, management training, and sociological research .

Maslow originally developed five hierarchies of needs, with the physiological stage being the most fundamental, as only when needs are met can the human body operate as intended. Once physiological needs are met, safety needs take precedence and control human' conduct. Hence, the following hierarchy is the safety stage, which includes health, personal, emotional, and financial security. The next stage in the hierarchy is the love stage. According to Maslow, this stage should be about receiving love from others and spreading love. The fourth stage of the hierarchy is Esteem[7]. A human is expected to be able to demand respect for both oneself and others at this point, and when these expectations are met, ego and self-efficacy rise [11]. The ultimate level of Maslow's hierarchy is the self-actualization stage. "What a man can be, he must be.". The idea that self-actualization is necessary is based on this quotation. According to Maslow, this stage is the drive to reach one's full potential and become the best version of oneself. Mittelman believed that the traits that set the figures Maslow emphasized apart from others were their openness rather than their level of self-actualization[7].

2.1.2 Application of Maslow's hierarchy in different sectors

Maslow's hierarchy of needs has been incorporated in many different sectors; the most widely acknowledged ones are education, healthcare, and social work. Bridgman et al. show how a fundamental approach to investigating and

motivating students during the learning process arises in a hierarchy that people try to address precisely[12]. The curriculum developers divide the basic mathematics syllabus into years and units [13]. The curriculum's themes are organized according to the student's needs in a hierarchical pattern (B. Sargent et al., 2014). Regarding the healthcare field, Poirier believes that modifying the role of pharmacy in a better healthcare delivery model that prioritizes human connections and patient needs would necessitate adjustments to pharmacy education policies and reimbursement mechanisms [14]. From a conceptual standpoint, Type I diabetes [15], palliative care, and hospice patients' requirements have all been met using Maslow's paradigm in the past [16]. In social life studies, Bob Poston stated that everyone is affected emotionally at every level of Maslow's Hierarchy of Needs. A person will develop self-confidence and self-esteem considerably more quickly if their early experiences are favourable and their needs are addressed. It aids in building a solid foundation for life.

The findings above involving Maslow's Hierarchy of needs in various fields have reiterated the vital role of this theory in different sectors. Regarding the objective of this paper - the impact of Maslow's hierarchies on Human Resource Management, the Journal of Cardiothoracic and Vascular Anesthesia comes in first when it comes to the most productive journals on Maslow and Management in recent years. The Sustainability magazine comes next. Humanistic Psychology is the third publication of the most extensive study.

2.1.3 Relevance of Maslow's theory in education

Despite the age of Maslow's theory, the symbolic representation of the hierarchy of needs remains relevant and practical today. Scholars, development practitioners, legislators, and even the general public can readily identify the symbol. As Abuloff (2017: 508) states, Maslow's pyramid "*has resonated powerfully in scholarship across disciplines. More interestingly, it remains, some 75 years after its articulation, well known beyond the ivory tower*". Research papers that offer insights into educational aspects suggest that all action verbs classified as cognitive, aesthetic, transcendental, and self-actualization criteria are cognitive. Since these are the growing needs in Maslow's Hierarchy of Needs, teachers should appropriately evaluate students' knowledge and comprehension, inventiveness and creativity, analysis, and application. Teachers must also provide students with critical thinking exercises and real-world word problems to solve in order to expose them to the practical use of their cognitive talents to apply their information and comprehension. Therefore, to achieve the predetermined aims, educators should use action verbs based on the topic's objective .

Maslow's theory has dramatically benefited human growth and education. This theory's criteria can be used to measure teachers' subjective job satisfaction. For instance, teachers who receive equitable treatment regarding task distribution and just compensation for their labour are more likely to succeed in life.

2.2 Objectives and Scope of the Study

Objectives: The study describes the application of Maslow's Hierarchy of Needs in Human Resource Management (HRM) in education, specifically in higher education institutions.

An insight into HRM through the lens of Maslow's hierarchy application at Stanford University and the University of British Columbia (UBC) is provided in this study. The two institutions above are prestigious universities renowned for outstanding training of faculty departments and employee performance.

The findings from this study contribute to the ongoing efforts to enhance the quality of higher education in Vietnam and support the development of a motivated and high-performing academic workforce by effectively including Maslow's theory in HRM.

Scope: On a global scale, the study examines HRM through Maslow's hierarchy. It reveals tailored approaches to the cases of staff development, well-being, and motivation in two academic settings, Stanford University and the University of British Columbia.

This study will address the current situation of HRM at Vietnamese higher institutions. This study will propose a sustainable development model in HRM activities based on this awareness.

2.3 Research Methodology

Research Design: The research adopts a qualitative approach to explore the application of Maslow's Hierarchy of Needs Theory in human resource management at higher education institutions in Vietnam. This approach is chosen to understand how Maslow's theory is implemented and perceived in Vietnamese higher education.

Data Collection: The primary data collection method involves a comprehensive review of existing literature. The sources include peer-reviewed journals, books, official reports, and credible online resources. The literature review focuses on both theoretical aspects of Maslow's Hierarchy of Needs and practical applications within human resource management.

2.4 Application of Maslow's Hierarchy in Human Resource Management

Meeting Physiological Needs in Educational Institutions: Maslow created a five-stage hierarchy of requirements, where each level depends on the satisfaction of the one before it [17]. The base of the hierarchy is the physiological level, which covers the demands of educational institutions' employees for survival. Before they can feel valued or loved, teachers and workers need to have access to food, water, air, shelter, and an accessible and comfortable location to live [18], which includes the removal of artificial risks, excellent health, a well-planned institution, and a safe working environment free from natural disasters [19]. Organizations can also fulfil these physiological needs by developing a

pay scale that allows the lowest-level employee to get an adequate salary that covers the basic needs of himself and his dependents [20]. One aspect to consider is that highly skilled individuals are drawn to well-paying professions rather than teaching. Any profession that takes over to resupply itself is doomed. The second aspect is the widespread teacher attrition to highly compensated private sector organizations and establishments that offer superior pay and working conditions [21].

Ensuring Safety and Security needs: After satisfying the physiological stage, educational institutions' human resources can continue to progress to the safety needs stage. The need for security is the need to feel safe, comfortable, and shielded from potentially harmful external factors. While it is challenging for educational institutions to eradicate uncertainty, they may lessen it by offering benefits like health insurance, pension plans, and insurance. A manager's dependable and thoughtful actions can heighten security [20].

Fostering Social Belonging and Relationships: The third hierarchy of Maslow's Theory is the need for Affiliation. While social Affiliation cannot be forced upon individuals, educational organizations can facilitate social interaction by offering various avenues for people to engage with one another. People can benefit from flexible workstations, collaborative projects, school picnics, and social events, as these activities allow employees to engage and mingle [20].

Promoting Esteem and Recognition: Another vital stage of Maslow's Theory is undeniably the need for Reputation. Like everyone else, employees want to be acknowledged and praised for their hard work. The easiest thing a supervisor can do to satisfy this desire is to recognize and honour excellent work when it is produced. Merit-based promotions and pay increases are additional ways to address a person's demand for Reputation [20].

Facilitating Self-Actualization: The top of Maslow's Hierarchy of Needs, also known as the ultimate stage of need, is Transcendence. It is the drive to overcome a fear or task by trying to develop oneself in the face of difficulty and resistance. An ability to take initiative, be creative, and be willing to take chances are shared characteristics of the achievement-oriented worker. When managers recognize this desire in their staff, they can support the worker's initiative and give him the desired challenge by giving him more authority to make decisions (See Figure 2).

Figure 2 Organizational Examples of HRM according to Maslow's Hierarchy of Needs

2.5 Case Studies of Maslow's Hierarchy Application in Universities

2.5.1 Case study 1: Stanford University

Stanford University is committed to addressing its employees' fundamental physiological and safety needs through several key initiatives. The university ensures competitive compensation packages that align with the cost of living and industry standards, thereby securing the financial well-being of its staff. In addition, comprehensive health benefits, including medical, dental, and mental health services, are provided to support employees' overall wellness. The emphasis on maintaining a safe and secure work environment further underscores the institution's commitment to fulfilling these basic needs, ensuring that staff can perform their duties without concern for their safety.

To address the psychological needs of its employees, Stanford University fosters a supportive work culture that emphasizes respect, inclusivity, and work-life balance. The university actively promotes a culture of respect and inclusivity through various initiatives and policies to create an equitable workplace for all employees. Programs designed to help employees balance their professional and personal lives, such as flexible working hours and family-friendly policies, are also in place. Furthermore, Stanford offers numerous professional development opportunities and career advancement programs. These initiatives aim to recognize employees' achievements and support their continuous growth and development, thus meeting their needs for Esteem and belonging.

Stanford University goes beyond the basic and psychological needs to address the self-fulfilment needs of its staff. The university offers leadership development programs that equip employees with the skills and knowledge necessary for higher-level positions. Mentorship opportunities are also available, providing staff guidance and support from more experienced colleagues. Additionally, Stanford encourages community engagement activities that allow employees to contribute to society and develop a sense of purpose. These initiatives are designed to foster a sense of achievement and personal growth, ultimately contributing to the self-actualization of the staff.

Research and case studies indicate several positive impacts on the staff at Stanford University resulting from the application of Maslow's hierarchy of needs. Firstly, there are high levels of job satisfaction and engagement among employees. The university's efforts to meet basic and higher-order needs are crucial in enhancing employee satisfaction. Secondly, improved retention rates are observed among faculty and staff, which can be attributed to the supportive work environment and ample opportunities for professional growth provided by the university. Finally, the productivity and collaboration among staff members are notably enhanced. These factors collectively contribute to the overall organizational effectiveness of Stanford University.

The implementation of Maslow's principles at Stanford University has a significant favourable influence on the quality of education. A supportive and engaged staff directly enhances the student experience. The positive work environment fosters a conducive learning atmosphere, increasing student satisfaction. Furthermore, motivated and satisfied employees are likelier to engage in innovative teaching methods and conduct impactful research. This, in turn, bolsters the academic Reputation of Stanford University, demonstrating the far-reaching benefits of addressing the holistic needs of employees.

Figure 3 Application of Maslow's Hierarchy of Needs at Stanford University

2.5.2 Case study 2: University of British Columbia (UBC)

The University of British Columbia (UBC) has strategically integrated Maslow's Hierarchy of Needs into its human resource framework to enhance employee satisfaction, retention, and overall organizational effectiveness. This comprehensive approach addresses needs, from basic physiological and safety requirements to higher-level career development and psychological well-being.

UBC prioritizes its employees' foundational physiological and safety needs through competitive compensation packages, comprehensive health benefits, and ergonomic workplace designs. These measures ensure financial stability, promote physical well-being, and create a secure work environment, addressing concerns about living costs in Vancouver.

Fostering a supportive and inclusive workplace culture, UBC values diversity, equity, and work-life balance. This approach cultivates a sense of belonging and psychological safety among employees. Employee assistance programs and wellness initiatives further support mental health, ensuring staff members feel valued and supported beyond their professional roles.

Moreover, UBC offers extensive professional growth and career advancement opportunities, empowering employees through leadership training programs and ongoing development opportunities. These initiatives equip staff with the necessary skills, foster personal growth, and enhance job satisfaction, contributing to their sense of accomplishment and career fulfilment.

UBC's implementation of Maslow's principles has yielded positive outcomes for its staff. The university's supportive HR policies and positive work environment increase job satisfaction and morale. By meeting diverse needs, UBC fosters an environment where employees feel appreciated and motivated to perform at their best.

Maslow's principles also contribute to higher retention rates and increased employee engagement at UBC. Addressing employees' needs ensures a committed workforce consistently contributing to the university's mission and goals. This inclusive culture and professional development opportunities encourage collaboration and innovation among staff members, enhancing academic and research achievements and reinforcing UBC's leadership in higher education.

UBC's commitment to Maslow's principles extends to enhancing its students' education quality. Engaged and motivated staff members create a vibrant academic community, promoting student engagement and success. A supportive environment nurtures a positive learning experience, inspiring students to excel academically and personally. Satisfied faculty members deliver exceptional teaching and conduct impactful research, enhancing UBC's academic Reputation and global competitiveness.

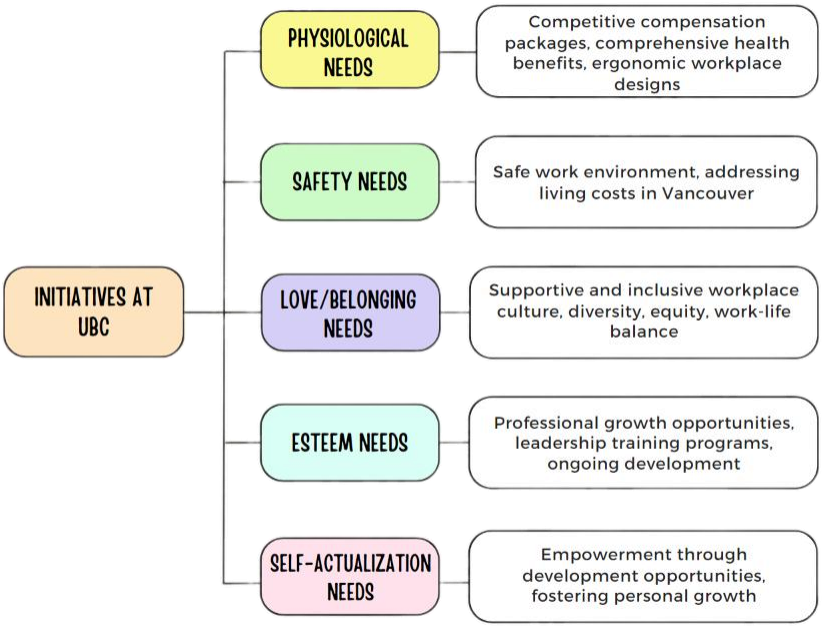

Figure 4 Application of Maslow's Hierarchy of Needs at the University of British Columbia (UBC)

2.6 Proposals for Enhancing Human Resource Management in Vietnamese Higher Education

The nation's most significant university enrollment training institutions are Foreign Trade University, National Economics University, Banking Academy in Hanoi, Polytechnic University in Hanoi, and University of Technology in Ho Chi Minh City. These institutions have demonstrated in recent years their capacity to produce highly skilled labourers in various sectors.

High-quality human resources are individuals who can carry out the given tasks in the most remarkable, original, and flawless manner, significantly improving both the job and society. Therefore, finding top-notch human resources is necessary for every critical task, not just for Vietnam but for any country in the world, developed or developing.

2.6.1 Strategic initiatives based on Maslow's hierarchy

Our nation's educational system faces severe challenges with globalization and expanding knowledge. It is imperative that education and training, notably higher education, be innovative in order to endure and maintain the momentum of that development. Developing high-quality teaching personnel is a strategy of great importance in education and training innovation overall. Many things must be done, and they must be carried out synchronously.

First and foremost, the government must invest in various areas of higher education, including facilities to enhance training quality and policies from the government, in order to effectively address the concerns above, encouraging businesses to support education and training - businesses must also take the initiative and be accountable in providing schools with resources like equipment and valuable skills. According to Maslow's Hierarchy, the base of the hierarchy is the physiological level, which covers the demands of educational institutions' employees for survival. This includes a safe working environment free from natural disasters, the elimination of artificial dangers, good health, and a well-planned institution [19]. To exemplify, the perks offered by RMIT (The Royal Melbourne Institute of Technology) Vietnam to its faculty members are also alluring. Apart from the favourable labour laws in Vietnam, lecturers also receive support through business trip airfare, travel expenses, health care, a gym, and work areas.

Furthermore, lecturers receive comprehensive training and assistance to help them acquire the abilities, competencies, attitudes, and behaviours needed to support RMIT Vietnam in achieving its objective. Ho Chi Minh City International University aspires to be among the top research institutions in the area and Vietnam, and it can produce and train excellent human resources to satisfy the demands of integration and land development. Furthermore, the university's operational model has been constructed in a modern manner in compliance with worldwide standards for its faculty, curriculum, and affiliations to other prestigious universities across the globe, including the Asia-Pacific area, Europe, and the United States.

The factors that lead to positive job attitudes, or motivators, do so because they have the potential to satisfy an individual's need for self-actualization, according to research by Fredrick Herzberg and his colleagues, who conducted the now-famous study on motivation and job satisfaction. Their research also showed that satisfaction rises when specific needs, known as motivators - achievement, recognition, the work itself, responsibility, and advancement - are met; yet, minor discontent occurs when the motivators are not met.

2.6.2 Training and development programs

Developing and enhancing practical knowledge, job skills, and the capacity to use foreign languages is essential. Additionally, it is necessary to strengthen ties with businesses to provide high-quality human resources through various means, such as inviting respectable businesses to teach and setting up multiple practice sessions for employees at the institution. In addition to the duties of school administrators, instructors, and teachers, it is essential to create more transparent procedures and rules so that everyone - including students - should be accountable for participating.

In order to further improve scientific research and training capacity, schools should collaborate and fully utilize the assistance of international organizations in the fields in which they are engaged. This will help to improve high-quality training. Additionally, it is crucial to draw in human resources, such as Vietnamese professionals working abroad who have in-depth knowledge of all the areas in which schools collaborate on scientific research and instruction. Moreover, higher education institutions should increase collaboration and ties with esteemed global universities (both for undergraduate and graduate programs) to enhance the ability of the faculty to teach, constantly adding new course materials and textbooks to give teachers access to the most recent information available.

2.6.3 Creating a supportive work environment

It first suggests that employees should feel comfortable in their physical surroundings. Meeting spaces should be casually set up and furnished with furnishings and decorations that appeal to an adult audience. Lighting and acoustics should also consider the audience's deteriorating audiovisual acuity. Teachers and workers should feel supported, respected, and accepted in the psychological environment. Teachers and students interact as collaborative researchers in a culture of mutuality, and speech is allowed without fear of retaliation or mockery. Compared to the traditional school atmosphere of formality, semi-anonymity, and status differentiation between teacher and student, people tend to feel more "adult" in a friendly and informal setting where they are valued as unique individuals and known by name (Knowles, 1970).

Developing a learning climate involves two primary components: the physical and the psychological. The former involves improving the learning environment to support learners, such as through formal training and courses offered to staff members or employees within the organization, and the latter involves ongoing learning that happens informally and between coworkers, managers, supervisors, and management. The learning atmosphere impacts informal learning, so it is essential to create an inspiring and exciting setting (Vithayaporn et al., 2022).

3 Discussion

3.1 Physiological Needs

Proposals: Salary and Benefits: Developing a comprehensive compensation system that includes competitive salaries, health insurance, and retirement benefits is essential. The proposed system should align with market standards to attract and retain talent, ensuring staff members' physiological needs are met.

Facilities Improvement: Upgrading facilities to ensure staff have access to modern classrooms, laboratories, and office spaces is crucial. This includes ensuring that buildings are well-maintained, equipped with necessary amenities, and conducive to teaching and research.

Applications: Budget Planning: Universities must allocate specific funds for salary increases and benefits improvements. This may involve conducting market salary surveys to benchmark compensation packages and ensure alignment with national and international standards.

Funding Sources: To supplement institutional budgets, universities should explore public-private partnerships, government grants, and international funding opportunities. For example, collaboration with private sector companies for research funding or facilities development can alleviate budget constraints.

Feasibility Analysis: Budget Considerations: Addressing the physiological needs of staff, such as ensuring competitive remuneration and sufficient facilities, requires substantial financial investment in infrastructure and resources. Given Vietnamese universities' financial constraints, these improvements must be gradual and incremental. Incremental enhancements can begin with prioritizing the most critical areas of need, while long-term plans can be developed to address other areas as funds become available.

Administrative Support: Effective implementation of initiatives to fulfil physiological needs relies heavily on solid administrative support. This includes prioritizing the allocation of funds for essential facilities and resources. Exploring public-private partnerships and external funding sources, such as grants from international educational organizations, can help augment institutional budgets and facilitate the implementation of these initiatives.

Potential Benefits: Enhanced Recruitment and Retention: Offering competitive salaries and adequate facilities is crucial for attracting and retaining high-caliber staff. Universities can maintain continuity and stability in their academic and administrative operations by reducing turnover rates.

Improved Teaching and Research: Ensuring access to essential resources, such as modern laboratories and well-equipped classrooms, enhance education quality and research outcomes. This, in turn, bolsters the university's Reputation and contributes to its long-term success.

3.2 Safety Needs

Proposals: Job Security: Implementing policies that offer long-term contracts, clear career progression paths, and transparent promotion criteria is essential. These policies should reduce job insecurity and foster a stable work environment.

Safety Measures: Establishing comprehensive safety protocols, providing regular safety training, and ensuring compliance with national safety standards are crucial. This includes regular safety audits, emergency preparedness plans, and health and safety workshops.
Health Benefits: Offering comprehensive health insurance and wellness programs is necessary. Universities should provide health screenings, mental health support, and wellness initiatives to promote well-being.
Applications: Policy Development: Universities should draft and implement policies that provide job security and clear career progression paths. This can be achieved by developing detailed career frameworks and transparent evaluation systems.
Safety Infrastructure: Investment in campus security systems, emergency response plans, and regular safety audits is critical. Universities should also partner with local health and safety agencies to ensure compliance with standards.
Health Programs: Developing partnerships with healthcare providers to offer comprehensive health insurance and wellness programs can enhance staff well-being. Universities might consider setting up on-campus health centres and offering mental health resources.
Feasibility Analysis: Policy Adjustments: Establishing clear policies regarding job security, safety measures, and health benefits is essential. Adherence to national safety standards can be achieved through thorough planning and systematic implementation. Universities must develop and enforce safety protocols, provide regular training, and conduct safety audits to ensure compliance.
Financial Investment: Investment in safety infrastructure, such as campus security systems, comprehensive health insurance, and emergency response plans, is feasible through phased implementation. Strategic prioritization of safety initiatives can ensure that essential measures are implemented without overwhelming the budget.
Potential Benefits: Staff Well-being: Ensuring physical and psychological safety enhances staff engagement and well-being. A safe work environment reduces stress and fosters a sense of security among employees.
Cost Reduction: Over time, the benefits of improved safety measures include lower turnover-related costs and more excellent institutional stability. Investing in safety can lead to fewer accidents and health-related issues, reducing absenteeism and associated costs.

3.3 Love/Belonging Needs

Proposals: Social Events: Organize regular social events and team-building activities to foster community among staff. These events can include annual staff retreats, cultural celebrations, and informal gatherings.
Mentorship Programs: Establish mentorship programs to support new staff and promote professional development. Pairing new employees with experienced mentors helps integrate them into the university culture and provides guidance for career advancement.
Collaborative Environment: Create spaces and opportunities for interdisciplinary collaboration. This can be achieved by designing common areas for informal interactions and promoting cross-departmental research projects.

3.3.1 Applications

Event Planning: Allocate time and minimal financial resources for organizing social events and team-building activities. Leveraging existing facilities and involving staff in planning can reduce costs.
Mentorship Framework: Develop a structured mentorship program with clear goals and outcomes. Training mentors and regularly evaluating the program's effectiveness can enhance its impact.
Collaborative Spaces: Designate areas for collaborative work and encourage cross-departmental projects. Creating shared workspaces and hosting regular interdisciplinary meetings can foster collaboration.

3.3.2 Feasibility analysis

Low-Cost Initiatives: Initiatives such as social events, team-building activities, and mentorship programs require minimal financial resources but significant investment in staff time and engagement. These initiatives can be organized using existing resources and facilities, making them cost-effective.
Organizational Culture: Success in addressing social needs depends on cultivating a supportive organizational culture that values collaboration and community. Leadership must model and promote behaviours that encourage inclusivity and mutual support among staff.

3.3.3 Potential benefits

Enhanced Collaboration: Stronger interpersonal relationships among staff promote teamwork and mutual support, leading to greater productivity and job satisfaction. Collaborative efforts can result in innovative solutions and improved performance.
Increased Morale: A sense of belonging and shared purpose can significantly elevate staff morale and reduce absenteeism. Employees who feel connected to their colleagues and the institution are likelier to be engaged and committed to their work.

3.4 Esteem Needs

3.4.1 Proposals

Professional Development: Provide opportunities for training, workshops, and further education. This includes offering courses on the latest teaching methodologies, research techniques, and leadership skills.

Recognition Systems: Develop formal recognition programs to acknowledge staff achievements and contributions. This can include awards, certificates, and public acknowledgements during staff meetings or university events.
Career Advancement: Create clear pathways for career progression and leadership opportunities. Developing a transparent promotion process and offering leadership training programs can support staff in achieving their career goals.

3.4.2 Applications

Training Programs: Allocate budget for professional development initiatives and partner with educational institutions for training. Offering scholarships or funding for external courses can further enhance staff development.
Recognition Framework: Establish awards, certificates, and public acknowledgements to celebrate staff achievements. Creating an annual awards ceremony or recognizing achievements in university publications can highlight staff contributions.
Career Pathways: Develop a transparent career advancement framework with clear criteria and opportunities. Providing regular performance reviews and feedback helps staff understand their progress and potential career paths.
Feasibility Analysis: Investment in Professional Development: Implementation of professional development initiatives is feasible with dedicated budget allocations for training programs, workshops, and career advancement opportunities. Universities can seek external funding and partnerships to support these initiatives.
Recognition Programs: Establishing formal recognition systems to acknowledge achievements and contributions is essential. These systems can include awards, certificates, public acknowledgements, and other forms of recognition that highlight employee accomplishments.

3.4.3 Potential Benefits

Motivation and Productivity: Recognition and career advancement opportunities are potent motivators, enhancing staff performance and overall organizational outcomes. Employees who feel valued and appreciated are more likely to be productive and engaged.
Talent Retention: Improved job satisfaction and clear career progression pathways contribute to retaining skilled employees. Providing opportunities for growth and development helps universities maintain a competitive edge in attracting and keeping top talent.

3.5 Self-Actualization Needs

3.5.1 Proposals

Autonomy: Empower staff with decision-making authority and encourage innovative teaching and research methods. This can involve giving faculty more control over their curriculum and research projects.
Creativity and Innovation: Establish innovation labs, provide research grants, and promote interdisciplinary projects. Creating an environment that encourages experimentation and supports new ideas can drive innovation.
Personal Growth: Support sabbaticals and opportunities for further education and personal development. Offering time off for research, study, or professional development allows staff to pursue their interests and expand their expertise.

3.5.2 Applications

Empowerment Policies: Create policies that delegate decision-making authority and encourage innovative practices. This includes reducing bureaucratic hurdles and supporting staff initiatives.
Innovation Funding: Allocate funds for research grants and support interdisciplinary collaboration. Providing seed funding for pilot projects and facilitating access to research resources can spur innovation.
Growth Opportunities: Provide sabbaticals, professional development courses, and support for further education. Encouraging staff to pursue advanced degrees or specialized training can enhance their skills and knowledge.

3.5.3 Feasibility analysis

Supportive Policies: Implementation is feasible with policies that support flexibility, innovation, research, and personal growth. Universities should create an environment encouraging creativity and allowing staff to pursue their interests and passions.
Resource Allocation: Requires strategic allocation of funds for research grants, sabbaticals, and professional development opportunities. Universities should prioritize investments in areas that support academic and personal growth, such as funding for advanced research and opportunities for interdisciplinary collaboration.

3.5.4 Potential benefits

Academic Excellence: Support for advanced studies and research initiatives significantly enhances institutional research output and academic standing. Encouraging self-actualization among staff leads to groundbreaking discoveries and contributions to knowledge.
Leadership Development: Providing opportunities for self-actualization cultivates leadership skills, contributing to effective succession planning within the institution. Developing organizational leaders ensures continuity and a deep understanding of the university's culture and values (See Figure 5).

Figure 5 Maslow's Hierarchy in Higher Education HRM

4 CONCLUSION

In the latter part of the 20th century, Vietnam elevated training and education to the highest state policy level. Any nation that has mastered the major sciences and technologies will be very competitive economically, yet significant educational expenditure is required to attain such a fundamental issue. Education and training entail investing in human capital and developing it to acquire professional and intellectual abilities that enable it to create and absorb new information and technological advancements. East Asian nations, such as Japan, South Korea, and Taiwan, have demonstrated this via their respective development processes regarding education. In order to meet its educational development objectives, Vietnam must act far more quickly than it has in the past to put into place synchronized and efficient policies to create excellen t human resources in higher education institutions. Implementing Maslow's hierarchy of needs in Vietnamese higher education institutions is feasible with strategic planning, administrative commitment, and sometimes external funding. While initial costs and policy adjustments may pose challenges, the potential benefits outweigh these barriers regarding improved staff well-being, enhanced educational quality, and institutional Reputation. By addressing the diverse needs of staff - from basic physiological requirements to opportunities for self-actualization - universities can create a supportive and conducive environment for both personal growth and organizational success. This holistic approach benefits staff members and contributes to the overall development and sustainability of higher education institutions in Vietnam.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

REFERENCES

[1] Research study Higher education and career development in Vietnam. 2024. SlideShare. https://fr.slideshare.net/slideshow/research-study-higher-education-and-career-development-in-vietnam/268026261
[2] Tien NH., Jose RJS., Mai NP., Long NT., Hai TV. The current state of human resources in international universities in Vietnam. International Journal of Multidisciplinary Research and Development, 2020, 7(7): 22-27. https://doi.org/10.1007/s10490-017-9522-3
[3] Qutni D., Kristiawan M., Fitriani Y. Human Resource Management in Improving The Quality of Education. Edunesia: Jurnal Ilmiah Pendidikan, 2021, 2(2): 354–366. https://doi.org/10.51276/edu.v2i2.132
[4] Vithayaporn S., Katekaew R., Vorapanya C., Sanpetpanich S. Antecedents And Consequences of Organizational Learning Climates: A Meta-Analysis Using Maslow's Hierarchy of Needs Theory. ABAC ODI JOURNAL Vision. Action. Outcome, 2022, 9(2), 38-58. https://doi.org/10.14456/abacodijournal.2022.3
[5] Sargent B., Gautreau C., Stang K. Multicultural considerations for curriculum developers of online courses. International Journal of Online Pedagogy and Course Design (IJOPCD), 2014, 4(4): 31-43. https://10.4018/ijopcd.2014100103

[6] Kremer W., Hammond C. Abraham Maslow and the pyramid that beguiled business. BBC news magazine, 2013, 31. http://www.bbc.com/news/magazine-23902918
[7] Maslow AH. A Theory of Human Motivation. Psychological Review, 1943, 50: 370–396. https://doi.org/10.1037/h0054346
[8] Schultz DP., Schultz SE. CHOICE: Multiple format options include textbook, eBook, and eChapter rentals. 2016. https://www.hzu.edu.in/uploads/2020/9/Theories%20of%20Personality.pdf
[9] Aruma EO., Hanachor M.E. Abraham Maslow's hierarchy of needs and assessment of needs in community development. International Journal of Development and Economic Sustainability, 2017, 5(7): 15-27.
[10] Ansorger J. An analysis of education reforms and assessment in the core subjects using an adapted Maslow's hierarchy: Pre and Post COVID-19. Education Sciences, 2010, 11(8): 376.
[11] Yildiz EP. Academist perceptions on the use of Web 2.0 tools through Maslow's needs hierarchy: A case study. Education Quarterly Reviews, 2021, 4(1). https://doi.org/10.31235/osf.io/kar5n
[12] Bridgman T., Cummings S., Ballard J. Who built Maslow's pyramid? A history of the creation of management studies' most famous symbol and its implications for management education. Academy of management learning & education, 2019, 18(1): 81-98. https://doi.org/10.5465/amle.2017.0351
[13] Kolstad R., Briggs LD., Whalen K. Incorporating language arts into the mathematics curriculum: a literature survey. Education, 1996, 116(3): 423+. https://link.gale.com/apps/doc/A18434934/AONE?u=anon~9ce33bc9&sid=googleScholar&xid=d54aeca6
[14] Poirier TI. Advocating for patient care literacy. American Journal of Pharmaceutical Education, 2018, 82(1): 6884. https://doi.org/10.5688/ajpe6884
[15] Beran D. Developing a hierarchy of needs for type 1 diabetes. Diabetic Medicine, 2014, 31(1): 61-67. https://doi.org/10.1111/dme.12284
[16] Zalenski RJ., Raspa R. Maslow's hierarchy of needs: a framework for achieving human potential in hospice. Journal of palliative medicine, 2006, 9(5): 1120-1127. https://doi.org/10.1089/jpm.2006.9.1120
[17] Mathes EW. Maslow's hierarchy of needs as a guide for living. Journal of Humanistic Psychology, 1981, 21(4): 69-72. https://10.1177/002216788102100406
[18] Oppong-Gyebi E., Belbase S., Amo-Asante K. The Identification and Utilization of Maslow's Hierarchy of Needs in Ghana's Senior High Mathematics Curriculum. Journal of Mathematics Instruction, Social Research and Opinion, 2024, 3(2): 171-188. DOI: 10.58421/misro.v3i2.235
[19] Fisher MH., Royster D. Mathematics teachers' support and retention: Using Maslow's hierarchy to understand teachers' needs. International Journal of Mathematical Education in Science and Technology, 2016, 47(7): 993-1008. https://10.1080/0020739X.2016.1162333
[20] Matuan T. Novalyn. Salary and Benefits Administration Towards Job Satisfaction Among Faculty Members in the Private Junior High Schools of Malabang, Lanao Del Sur. International Journal of Multidisciplinary Research & Reviews, 2022, 1(3): 13-26.
[21] Adiele EE., Abraham N. Achievement of Abraham Maslow's Needs Hierarchy Theory among Teachers: Implications for Human Resource Management in the Secondary School System in Rivers State. Journal of Curriculum and Teaching, 2013, 2(1): 140-144. https://doi.org/10.5430/jct.v2n1p140

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RESEARCH ON THE VALUE EXCAVATION AND ACTIVATION PATHS OF LINGNAN ANCIENT VILLAGE EDUCATIONAL CUSTOMS FROM THE PERSPECTIVE OF MEDIA PILGRIMAGE

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Abstract: This paper uses literature analysis, case studies, and field research methods, combined with media pilgrimage theory, to explore the educational customs of Lingnan ancient villages and their value excavation and activation paths. By analyzing the historical background, cultural value, and the intervention of modern media in the educational customs of Lingnan ancient villages, the study proposes specific paths for excavation and activation, providing theoretical basis and practical guidance for the protection and inheritance of ancient villages.
Keywords: Media pilgrimage; Lingnan ancient villages; Educational customs; Value excavation; Activation paths

1 INTRODUCTION

General Secretary President Xi emphasized: "We must strengthen the protection and utilization of cultural relics and the preservation and inheritance of cultural heritage, continuously expand the international influence of Chinese culture, and enhance national pride and cultural confidence. " Ancient villages are integral components of cultural heritage, embodying the spiritual values, national character, and cultural genes of the nation, serving as bridges and links for the continuation of national history. These ancient villages are also critical nodes of traditional Chinese society, important carriers for the creation, transmission, and development of traditional Chinese culture, and living "specimens" for the examination and study of the evolution and development of traditional Chinese society and culture. Lingnan ancient villages, as important cultural heritage in southern China, contain rich educational customs and cultural traditions[1]. With the advancement of modernization, the educational customs of ancient villages face the risk of being forgotten and lost[2]. Media pilgrimage theory provides a new perspective and method for studying the inheritance and activation of ancient village educational customs. This study aims to explore how to excavate and activate the educational customs of Lingnan ancient villages through media means, with the goal of protecting traditional culture while adapting to the development needs of modern society. The significance of this research lies in providing theoretical support and practical guidance for the protection and inheritance of ancient villages.

2 OVERVIEW OF MEDIA PILGRIMAGE THEORY

2.1 Origin and Development of Media Pilgrimage Theory

Media Pilgrimage Theory originated from the intersection of cultural studies and media studies and aims to explore the role of media in cultural heritage and representation[3]. The theory was first proposed by British cultural studies scholars, emphasizing the unique role of media as a tool for cultural dissemination. Initially used to analyze media coverage of religious and sacred sites, the theory later expanded to include cultural heritage, historical memory, and other fields.

During the development of media pilgrimage theory, researchers gradually recognized that media is not only a channel for information transmission but also an important site for cultural representation and cognition[4]. Through media, people can "pilgrimage" to specific cultural and historical sites, experiencing and perceiving cultural memories and traditional customs that are otherwise inaccessible[5]. The media, as a site of pilgrimage, transcends its role as a mere transmission tool and becomes a space for cultural pilgrimage[6]. Through media, people can virtually "visit" certain cultural scenes and historical sites, engaging in cultural and emotional experiences[7]. This expansion of the theory has led to its widespread application in fields such as cultural preservation and educational inheritance.

2.2 Pilgrimage Tourism and Media Pilgrimage

Academic exploration of tourism motivation and the deeper spiritual significance of travel has facilitated the integration of religious pilgrimage and tourism experiences. Graburn introduced the concept of tourism as a ritual, examining the essence, motivation, experience, and meaning of tourism, and viewing it as a "sacred journey" that moves from the secular to the sacred and back. Researchers such as MacCannell have explicitly suggested that tourism is a modern form of pilgrimage ritual, positing that individual travel activities can be seen as pilgrimages undertaken to satisfy spiritual needs. In the field of communication studies, there is also discourse on media and pilgrimage tourism. Couldry proposed the media ritual theory, suggesting that media rituals are new forms of human ritual centered around media

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practices. Couldry combined the concept of "pilgrimage" with the context of mediatisation, describing the behavior of tourists traveling to real-world locations behind the screen to participate in narratives from television, film, and other mass media as "media pilgrimage. "In this sense, the act of traveling to film and television shooting locations or encountering celebrities allows audiences to reaffirm the authenticity of media narratives and locations, representing a boundary-crossing and spatial performance between the media world and the real world. Media pilgrimage focuses on the bodily practices of tourists at media sites, emphasizing ritual behavior that transcends the "inside" and "outside" of media, thus framing tourism as an activity pursuing symbolic rituals, distinct from traditional tourism experiences that anticipate the authenticity of landscapes. Currently, researchers have examined the continuum of screen tourism concepts and the impact of symbolic differences within and outside media on pilgrimage experiences in film tourism, yet the theory of media pilgrimage has not been thoroughly discussed in the context of exploring and revitalizing the educational customs and values of ancient villages[8-9].

Media pilgrimage theory provides unique insights into understanding the role of media in cultural transmission. Through media pilgrimage, we can not only "visit" distant cultural sites but also re-recognize and experience the value of traditional culture in modern society. This theoretical application offers important support and practical guidance for excavating and activating the educational customs of Lingnan ancient villages.

3 OVERVIEW OF EDUCATIONAL CUSTOMS IN LINGNAN ANCIENT VILLAGES

3.1 Historical Background of Lingnan Ancient Villages

The Lingnan region, located in southern China and including Guangdong, Guangxi, and Hainan, features a unique geographical environment and a long history. Lingnan culture integrates Central Plains culture, South Yue culture, and foreign cultures, forming a distinctive regional character. As an important cultural heritage in this area, Lingnan ancient villages preserve rich historical memories and cultural traditions.

The architectural style, living habits, and social structure of Lingnan ancient villages reflect local cultural characteristics[10]. For example, common village buildings include walled houses, ancestral halls, and academies, which are not only living spaces but also important venues for cultural education. Ancestral halls and academies play a significant role in village education, responsible for passing on family culture and educating descendants.

As of now, China has included 8, 155 traditional villages in the national protection list, safeguarding 539, 000 historical buildings and traditional residences. This effort has preserved and developed 4, 789 items of intangible cultural heritage at the provincial level and above. Consequently, China has established the world's largest, most content-rich, and most valuable and comprehensively protected living heritage cluster of agrarian civilization. Guangdong Province boasts abundant traditional village resources, which hold significant historical, cultural, scientific, artistic, economic, and social value. As of July 1, 2024, 292 villages in Guangdong Province have been included in the traditional village list, as detailed in Table 1.

Table 1 Traditional Villages in Guangdong Province

Number	City	Time	Quantities	Municipal level
1	Guangzhou	2012-2019	13	Provincial Capital
2	Shenzhen	2012	1	Special Economic Zone
3	Foshan	2012-2019	22	Guangdong-Hong Kong-Macao Greater Bay Are
4	Dongguan	2012-2014	6	Guangdong-Hong Kong-Macao Greater Bay Are
5	Zhaoqing	2012-2019	12	Guangdong-Hong Kong-Macao Greater Bay Are
6	Huizhou	2012-2023	14	Guangdong-Hong Kong-Macao Greater Bay Are
7	Jiangmen	2012-2023	17	Guangdong-Hong Kong-Macao Greater Bay Are
8	Zhongshan	2012-2023	7	
9	Zhuhai	2016	2	
10	Shantou	2012-2023	13	Eastern Guangdong
11	Chaozhou	2012-2023	9	Eastern Guangdong
12	Jieyang	2013-2023	9	Eastern Guangdong
13	Shanwei	2012-2013	2	Eastern Guangdong
14	Meizhou	2012-2019	78	Eastern Guangdong
15	Heyuan	2012-2023	18	Eastern Guangdong
16	Zhanjiang	2012-2023	13	Western Guangdong
17	Maoming	2013	1	Western Guangdong
18	Yangjiang	2013-2023	3	Western Guangdong

19	Yunfu	2012-2016	3	Western Guangdong
20	Shaoguan	2012-2019	14	Northern Guangdong
21	Qingyuan	2012-2023	35	Northern Guangdong

3.2 Evolution of Educational Customs in Lingnan Ancient Villages

The educational customs of Lingnan ancient villages have a long history, evolving from family schooling to modern school education. In traditional society, family schooling was the main form of education, typically set in ancestral halls or homes, taught by scholars or respected elders in the village, focusing on Confucian classics, poetry, and etiquette. This education emphasized moral cultivation and cultural inheritance, highlighting traditional virtues such as respecting teachers, honoring parents, and revering ancestors.

Over time and with societal development, the educational customs of Lingnan ancient villages gradually changed. In the late 19th and early 20th centuries, Western educational ideas were introduced to China, and modern school education began to emerge in the Lingnan region. Private schools and charity schools started appearing in villages, with education content expanding to include science, mathematics, and foreign languages. Although modern education systems gradually replaced traditional family schooling, the influence of family schooling persists. Many ancient villages still retain traditional education venues such as ancestral halls and academies and continue to pass on educational customs through festivals and ancestor worship activities.

3.3 Cultural Value of Educational Customs in Lingnan Ancient Villages

The educational customs of Lingnan ancient villages have significant cultural value, mainly in the following four aspects.

1) Moral Education and Community Cohesion. Educational customs enhance community cohesion. Educational activities in villages, such as ancestor worship, ancestral hall education, and academy lectures, not only convey knowledge but also serve as important platforms for community interaction and emotional exchange, strengthening community unity and identity. The educational customs of Lingnan ancient villages emphasize moral education, teaching Confucian classics and traditional virtues through family schooling and ancestral halls, cultivating moral concepts and behavior norms across generations. This moral education plays an important role in family and social stability.

2) Cultural Inheritance and Cultural Identity. Educational customs are crucial for cultural inheritance in Lingnan ancient villages. Through family schooling, traditional culture is passed down through generations, with family history, local culture, and folk knowledge being preserved and developed during the education process. Through educational customs, villagers, especially the younger generation, can understand and identify with their cultural roots, enhancing pride and recognition of traditional culture. This cultural identity is significant for maintaining cultural diversity and regional cultural characteristics.

The educational customs of Lingnan ancient villages are not only about the transmission of knowledge and skills but also the inheritance of cultural values and concepts[11]. They have historically played an important role in personal moral cultivation, family stability, community cohesion, and cultural identity. With the advancement of modernization, these traditional educational customs face the risk of being forgotten and lost. Through the perspective of media pilgrimage, these educational customs can be better excavated and activated, bringing new vitality to them in modern society.

4 EXCAVATION OF EDUCATIONAL CUSTOMS VALUE FROM THE PERSPECTIVE OF MEDIA PILGRIMAGE

4. 1 Media Recording and Dissemination of Educational Customs

Media, as an important information dissemination tool in modern society, has powerful recording and dissemination functions[12]. From the perspective of media pilgrimage, various media forms (such as texts, images, videos, documentaries, etc.) can detail and vividly recreate the educational customs of Lingnan ancient villages. For example, documentaries can reproduce educational scenes in ancient villages through images and sounds, recording traditional educational forms such as ancestral hall education and family schooling. News media can introduce the historical origins and modern inheritance of ancient village educational customs through special reports and interviews. Social media platforms provide a broad dissemination and interactive exchange channel, where users can share and discuss the educational customs of Lingnan ancient villages, further expanding their influence.

4.2 Media Shaping the Cultural Value of Educational Customs

Media is not only a recorder and disseminator of educational customs but also a shaper of cultural values. Through media presentation, the educational customs of Lingnan ancient villages can be recognized and understood on a broader scale, and their cultural value can be reinterpreted and enhanced. Media can shape the cultural value of educational customs in the following ways.

1) Historical Recreation. Through historical documentaries, literary columns, and other forms, the educational customs of Lingnan ancient villages can be recreated, helping audiences understand their historical background and cultural connotations. This recreation is not only a revisit to history but also a re-recognition of traditional cultural values.
2) Storytelling. By telling the stories behind educational customs, such as the educational experiences of famous scholars and traditional family education, audiences can feel the profound cultural heritage and humanistic sentiments of educational customs. This storytelling method is not only vivid and interesting but also resonates with and gains recognition from the audience.
3) Cultural Interpretation. Through cultural interpretation programs and academic discussions, experts and scholars can deeply interpret the educational customs of Lingnan ancient villages, revealing their cultural value and social significance. This method can improve the public's understanding and cultural literacy of educational customs.

4. 3 Reproduction and Reconstruction of Educational Customs from the Perspective of Media Pilgrimage

From the perspective of media pilgrimage, the reproduction and reconstruction of educational customs is an important process. Media uses various technical means and creative ways to reproduce and reconstruct traditional educational customs in modern forms, giving them new vitality[13].

1) Virtual Reality (VR) and Augmented Reality (AR). VR and AR technology can realistically reproduce the educational scenes of Lingnan ancient villages, allowing people to experience them immersively. For example, using VR to recreate the ancestral hall education scene enables people to "pilgrimage" to the historical scene, feeling the cultural atmosphere of traditional education.
2) Interactive Media. Interactive media platforms provide participatory opportunities for the audience, making them not only recipients of culture but also participants and creators. For example, online interactive courses can integrate the educational content of ancient villages, enabling people to learn about and experience traditional educational customs through online platforms.
3) Digital Reconstruction. Digital media can digitally reconstruct the educational customs of ancient villages, such as creating digital archives and virtual exhibitions to present traditional educational customs in an all-around way. These digital reconstructions can be preserved and displayed long-term, making them available for people to appreciate and study at any time.

In conclusion, the value excavation of educational customs under the perspective of media pilgrimage is not only the recording and dissemination of traditional educational customs, but also the reshaping and enhancement of their cultural values through the reproduction and reconstruction of media. This process not only helps to protect and pass on the educational customs of Lingnan ancient villages, but also enhances the public's sense of identity and pride in traditional culture and promotes cultural diversity and sustainable development. Through the intervention of the media, the educational practices of Lingnan ancient villages are able to regain their luster in modern society and continue to play their roles of cultural inheritance and social indoctrination.

5 CHALLENGES AND RESPONSES IN REVITALIZING THE EDUCATIONAL CUSTOMS OF LINGNAN ANCIENT VILLAGES

In the process of revitalizing the educational customs of ancient Lingnan villages, many challenges are encountered, such as the impact of modernization, insufficient funding, and inadequate personnel training.

1) Modernization Impact. The process of modernization poses significant challenges to traditional educational customs, leading to the risk of these traditions being forgotten. Addressing this issue requires increased promotion and education to enhance public recognition and awareness of traditional culture. Integrating courses on the educational customs of Lingnan ancient villages into school curricula can help the younger generation understand and carry forward these traditions.
2) Insufficient Funding. Revitalizing educational customs necessitates substantial financial support. This can be addressed through diverse fundraising channels, such as government special funds, social donations, and cultural foundations. Additionally, promoting cultural tourism and organizing traditional cultural activities can attract tourists and financial resources, thereby supporting the preservation and transmission of educational customs.
3) Imbalance in Personnel Training and Heritage Transmission. The preservation of traditional educational customs relies on the support of skilled professionals. Implementing training programs can cultivate a group of experts who understand and master these traditions. Moreover, encouraging and supporting older scholars and custodians to impart their knowledge and experience is crucial for sustaining the transmission of these customs.

6 ACTIVATION PATHS OF EDUCATIONAL CUSTOMS FROM THE PERSPECTIVE OF MEDIA PILGRIMAGE

To revitalize the educational customs of Lingnan ancient villages, it is essential to combine traditional media with modern media. Traditional media includes newspapers, magazines, and books, while modern media encompasses television, the internet, social media, and virtual reality (VR).

6.1 Application of Media Technology

Media technology plays a crucial role in revitalizing the educational customs of Lingnan ancient villages. By utilizing various media technologies, the recording, dissemination, and interaction of educational customs can be achieved.

1) Utilizing VR and AR technologies, virtual educational scenes of Lingnan ancient villages can be created, allowing audiences to immerse themselves in traditional educational customs. For example, VR technology can recreate the classroom environment of traditional private schools, enabling audiences to interact with teachers in a virtual setting and learn traditional Confucian classics.

2) Producing high-quality documentaries and microfilms can visually record and showcase the educational customs of Lingnan ancient villages, conveying their cultural value to the audience. These visual materials can be broadcast on television and online platforms, expanding their reach.

3) Utilizing social media platforms such as Weibo, WeChat public accounts, and Douyin, content related to the educational customs of Lingnan ancient villages can be shared, along with online lectures and live classroom activities, enhancing audience interaction and participation.

4) Establishing digital archive systems to record the educational customs of Lingnan ancient villages in text, images, and videos facilitates long-term preservation and research.

6.2 Integration of Education and Training

The integration of education and training is a vital approach for revitalizing the educational customs of Lingnan ancient villages.

1) Incorporating courses on the educational customs of Lingnan ancient villages into primary, secondary, and higher education curricula introduces students to their historical background, cultural value, and significance of transmission. Classroom teaching and extracurricular activities can help students understand and appreciate these customs.

2) Conducting traditional cultural lectures and training sessions in communities to popularize the educational customs of Lingnan ancient villages among community members. Inviting scholars and custodians to provide explanations and demonstrations can enhance community participation and recognition.

3) Establishing a training mechanism for custodians to systematically train existing custodians of educational customs in Lingnan ancient villages, improving their educational level and transmission capability. Encouraging the younger generation to learn and pass on these customs ensures their continuous transmission.

6.3 Policy Support and Community Participation

Policy support and community participation are fundamental guarantees for the revitalization of educational customs in Lingnan ancient villages.

1) Local governments should formulate policies to protect and revitalize the educational customs of Lingnan ancient villages, providing financial and resource support. Establishing special funds for the restoration of traditional educational sites such as ancestral halls and private schools, and funding related research and dissemination activities. For instance, some ancient villages in Foshan Nanhai have revived traditional private school education through community participation and government support, rebuilding private schools and inviting traditional scholars to teach. This approach not only preserves cultural heritage but also revitalizes it in modern society.

2) Encouraging and mobilizing community members to participate in the protection and transmission of educational customs in Lingnan ancient villages. Community activities and cultural festivals can enhance members' recognition and sense of responsibility towards these customs. Integrating educational customs of Lingnan ancient villages into tourism projects can attract tourists to visit and experience them. This not only increases economic income but also expands the influence and recognition of educational customs. Local governments should establish and improve cultural heritage protection mechanisms, formulating relevant regulations and management measures to ensure the long-term protection and sustainable development of the educational customs of Lingnan ancient villages.

6.4 Cultural Activities and Exhibitions

Cultural activities and exhibitions are important means of revitalizing the educational customs of Lingnan ancient villages. Regularly hosting cultural festivals focused on the educational customs of Lingnan ancient villages through traditional education displays, interactive experiences, and lectures to attract public participation and attention. Organizing special exhibitions on the educational customs of Lingnan ancient villages in museums and cultural centers, showcasing their historical background, cultural value, and transmission status. Using various forms such as graphic panels, artifacts, and interactive installations to enhance the audience's viewing experience. Engaging in international cultural exchange activities to introduce the educational customs of Lingnan ancient villages to the global community. Academic exchanges and cultural exhibitions can expand their international influence and promote cultural diversity and global cultural exchanges.

6.5 Modern Technology and Innovation

Modern technology and innovation offer new possibilities for the revitalization of educational customs in Lingnan ancient villages.

1) Utilizing AI and big data technologies to systematically research and analyze the educational customs of Lingnan

ancient villages, uncovering their deep cultural value and transmission patterns. Intelligent methods can achieve precise transmission and personalized dissemination of educational customs.

2) Establishing digital museums for the educational customs of Lingnan ancient villages, using online platforms to display and disseminate these customs. Audiences can engage in online visits and interactive experiences to learn about the educational customs of Lingnan ancient villages.

3) Leveraging multiple platforms such as television, the internet, and mobile devices for dissemination, expanding the coverage of the educational customs of Lingnan ancient villages. Offering diverse content and formats through different platforms enhances dissemination effectiveness. Traditional media can detail the historical and cultural aspects, while modern media can broadly share these customs, attracting more attention. For example, high-quality documentaries and microfilms can be broadcast on television and online platforms.

7 CONCLUSION

Through collaborative efforts across various domains, including media technology application, education and training integration, policy support and community participation, cultural activities and exhibitions, and modern technology and innovation, the educational customs of Lingnan ancient villages can be effectively revitalized and transmitted, ensuring their continued cultural and educational significance in contemporary society.

COMPETING INTERESTS

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REFERENCES

[1] Cheng Nuo. Master of Media Practices in Urban Commercial Spaces. Chengdu: Sichuan University, 2021.
[2] Sun Xiaoran. Study on the Driving Mechanism of Young Travelers' "Hitting" Net-Red Catering. Jinan: Shandong University of Finance and Economics, 2024.
[3] Maia RCM. Mass Media Representation, Identity-Buildingand Social Conflicts: Towards a Recognition-Theoretical Approach. In: Recognition and the Media. Palgrave Macmillan, London. 2014.
[4] Han Jialiang, Zhang Xuelin. A study on rural women's mediatization practice and their subjectivity development under the perspective of rural revitalization--Based on an empirical investigation of C village in H province. Communication Innovation Research, 2024, (01): 88-107.
[5] Zhang Kaili. Digital cemeteries: a study of public mourning, emotional expression and justice construction in social media. Chongqing: Sichuan International Studies University, 2023.
[6] Mao Wanxi. How "space" enters media research: theoretical origins, research paths and problem domains. Journalism and Writing, 2024, (07): 5-19.
[7] Sun Yanfei, Liu Siyuan. The Logic and Orientation of Digitization Enabling the Construction of Yangtze River National Cultural Park. Nanjing Social Science, 2023, (10): 161-168.
[8] Fang Min, Sun Tongwen. Mechanism and performance of brand image design in digital scene. Journal of Hunan University(Social Science Edition), 2024, 38(02): 119-126.
[9] Huang Yue, Li Yong, Ye Ming, et al. The socialization of "hitchhiking": the connotative characteristics, generative logic and developmental orientation of contemporary youth sports participation. Journal of Guangzhou Sports Institute, 1-9.
[10] Yilu, Dai Jiming. Exploring the origin and construction of Lingnan ancient villages under the background of "beautiful countryside"--Taking 11 ancient villages in Wuzhou City as an example. Journal of Fine Arts, 2020, (02): 108-114.
[11] Chen Weiting, Zhao Jianhua, Qiu Li. Research on landscape characteristics and influencing factors of traditional settlements in the Nanjiang Basin--taking Yunfu Yunan near-river villages as an example. Southern Architecture, 2024, (06): 44-55.
[12] Zhang Panpan. Mobility and wholeness: an innovative study on the dissemination form and dissemination law of Chinese melodramatic documentaries - based on the perspective of deeply mediatized context. Movie Review, 2023, (21): 43-48.
[13] Wang Jingyun, Luo Hao. The contemporary value, goal vision and operation strategy of digital empowerment of Chinese culture inheritance and development. Journal of Beijing Union University (Humanities and Social Sciences Edition), 2024, 22(04): 8-16.

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EXPLORING THE EFFICACY OF CONTENT BASED INSTRUCTIONAL STRATEGIES ON THE ENHANCEMENT OF BUSINESS EDUCATION PROGRAMME IN F.C.E (TECHNICAL), AKOKA, LAGOS, NIGERIA

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Abstract: Strategies are techniques in utilization resources in fostering academic excellence to promote teaching and learning activities. Instructional strategies are major component in intelligent systems when passing instructions. Business education as a vocational course embeds entrepreneurship, marketing, accounting and office technology management courses for pre-graduation, graduation and post-graduation purposes. Research questions were formulated to guide the study. A descriptive study research design was adopted for the study. Instructional strategies make simplification adopt texts and promote comprehensiveness among students. It takes place in all educational levels, evaluating learning objectives, comprehension be achieved. Also, it provides pedagogical accommodation to learner proficiency levels and skills. The adaptability and sustainability of instructional strategies lies on the authenticity of the materials utilized. The teacher must create a truly learners centered classroom to adequately utilize instructional strategies. A structured and validated instrument was used to elicit responses for this study. In establishing the reliability of the instrument, 0.67 co-efficient was gotten showing the instrument was reliable. mean rating were used to analyze the responses from the research question. Business education programs require high level of expertise to ensure adequate level of instructional strategies utilization for the benefits of the nation at large. Recommendations were made includes curriculum planners should provide funds should be made to equip the business education programs at tertiary level and adaptation to what is done in the foreign world.
Keywords: Business education programme; Content based instructional strategy; Efficacy and exploring

1 INTRODUCTION

Centuries ago, Nigerian public educators engaged in several reforms. Notwithstanding, the existence of reform educationally implemented, students number remain classified as performing low. Consequently, gaps exists between levels of students existing continually the highest schools that performs, gaps exist with the achievement level, and the challenge of closing such gaps becomes a problem. Schools, which is a major institution within the society, are facing difficulty obtaining knowledge, skill and character formation in preparing students in adult years [1]. Content Based Instructional strategy, firstly arbitrary deletes the uniqueness between language and content. Second, it reflects the safety and aspires of learners. Third, it accounts the consequential use of the learners and exposes the students to authenticate materials and tasks. Fourth, it displays optimum conditions for second language exposed by acquiring learners to meaningful, cognitively language. Lastly, providing accommodating pedagogical level for proficiency among learners to improve skills and levels.

According to Federal Ministry of Education [2-3], business skills and techniques, business knowledge and understanding etc, which contribute to entry-level requirements for office occupations, are taught at the pre-vocational level in an integrated form called business studies. The acquisition of business and entrepreneurship skills is importantly more than over in recent times. This has resulted to global issues. Business education stresses learning experiences leading to mobilization of general objectives of entrepreneurship. It inculcates skills, culture, competencies and entrepreneurial culture that will enable them suit the society. Business education is a system that trains and encourages beneficiaries acquire skills that makes them fit into the place of work. Business education encounters the business world in rural and urban areas that prepares and engages them with positive attitude and competence in business and about business. Business education provides skills and knowledge enabling learners to adequately handle sophisticated software's, office technologies and information Management. It encourages skills, attitudes and knowledge needed by citizens be effective in managing business in an economic system. Consequently, business education provides individual with adequate and vocational skills and better knowledge. It equips one with pedagogical ethics in education for and about business. Also, it is a programme of instructions equipping one with vocational competencies providing information about business [4].

2 STATEMENT OF THE PROBLEM

Despite the inclusion of Business Education in the curriculum of tertiary education in Nigeria, its objectives has not yet been fully met. Many of the students still find it hard to get good jobs in their specialization after years of learning. The

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job environment does not accept a B.Sc. (Ed.) business education student that specializes in accounting, rather they go for OND in accounting which affects the rationale of going for the specialization [5]. After SIWES, most companies believe that Business Education students does not have an in-depth knowledge of their specialization such as Accounting, Office and Technology Management, Marketing and Entrepreneurship areas. This has created a miasma of fear in the future of Business education graduates which is affecting the enrolment of students in the course at undergraduate level [6]. This study will look at exploring the efficacy of content based instructional strategy on the enhancement of business education programmes in Federal College of Education (Technical), Akoka, Lagos State, Nigeria.

3 PURPOSE OF THE STUDY

1. The extent to which content-based instructional strategy augments Business education students in Federal College of Education (Technical), Lagos State.
2. Profile the ability and capability of Lecturers in deploying content-based instructional strategy for the academic performance of business education students in Federal College of Education (Technical), Lagos State.
3. Determine the challenges mitigating the maximal utilization of content-based instructional strategy for the academic performance of business education students in Federal College of Education (Technical), Lagos State.

4 RESEARCH QUESTIONS

1. To what extent does content-based instructional strategy augments Business education in Federal College of Education (Technical), Lagos State?
2. Does profiling the ability and capability of lecturers deploys content-based instructional strategy for the academic performance of business education students in Federal College of Education (Technical), Lagos State?
3. To determine the challenges mitigating the maximal utilization of content-based instructional strategy for the academic performance of business education students in Federal College of Education (Technical), Lagos State?

5 METHODOLOGY

The study adopted a survey research design. The population of the study covered all students in final year studying Business Education [7-9]. Sampling technique used for this study was based on purposive sampling technique because of the respondents possess similar experiences during the SIWES program. Questionnaire was used to illicit responses from the respondents. The reliability of the instrument was analyzed using PPMC and a correlation coefficient of 0.67 was gotten from the process. Mean rating was used to analyze the data gotten from respondents.

6 RESULTS

Table 1 Content based instructional strategy argument business education students in FCE T Akoka

S/N	Items	SA	A	D	SD	X	MEAN RATING	REMARKS
1.	It corroborates teaching	72	165	36	9	100	2.8	Positive
2.	It aids retention	36	138	72	9	100	2.6	Positive
3.	It creates a conducive environment	180	165	-	-	100	3.45	Positive
4.	It brings professionalism into play	252	111	-	-	100	3.6	Positive
5.	It reduces tension in the classroom	360	30	-	-	100	3.9	Positive
6.	It promotes improvement	256	138	-	-	100	3.94	Positive
7.	It increases efficiency and effectiveness	292	81	-	-	100	3.73	Positive

Table 1 above shows the research question one which were all positively remarked.

Table 2 Profiling ability and capability of lecturers deploy content based instructional strategy for the academic performance of business education students in FCE T Akoka Lagos State

S/N	ITEMS	SA	A	D	SD	X	MEAN	REMARKS
8.	Level of experience	140	135	24	8	100	3.07	Positive
9.	Age of learners	192	111	30	-	100	3.33	Positive
10.	Knowing how to pass knowledge	72	165	36	9	100	2.8	Positive
11	Creating a favorable environment	180	165	-	-	100	3.45	Positive
12.	Having deep understanding about Shorthand	252	111	-	-	100	3.63	Positive

Table 2 above shows the research question two which all remarks were positive remarked.

Table 3 Challenges mitigating maximal utilisation of business education students in Federal College of Education Technical Akoka Lagos State Nigeria

S/N	ITEMS	SA	A	D	SD	X	MEAN	REMARKS
13..	Challenge of learning content	256	81	18	-	100	3.55	Positive
14.	Non availability of Shorthand software tools	144	57	80	5	100	2.86	Positive
15.	Non utilization of ICT for the subject	216	57	36	9	100	3.18	Positive
16.	Inadequate level of expertise	318	54	-	-	100	3.82	Positive
17.	Non delivery on the side of the lecturer	36	138	72	9	100	2.6	Positive
18.	Lack of adequate Lab	256	138	-	-	100	3.9	Positive
19.	Lackadaisical attitude from students	244	63	36	-	100	3.4	Positive
20	I don't care attitude of lecturers	76	195	32	-	100	3.0	Positive

Table 3 shows the research question three. All remarks were positively remarked which shows that they are all challenges mitigating the maximal utilization of content-based instructional strategy for the academic performance of business education students in Federal College of Education (Technical), Akoka, Lagos, Nigeria.

7 CONCLUSION

Business education programme have many opportunities for better acquisition of skills and self-reliance in the society therefore government. Education authorities and individuals concerned should impact and contribute towards the enhancement of business education programme in tertiary institutions. Content of business education should met the on the job requirements to avoid a non interest among graduates after graduation.

Finally, it is important to note that business education have tremendous purpose for the development of tertiary institutions and the nation at large, but much to be achieved depends on how it is handled. A good number of problem exist in the impact of learning business education programme on students' competence and attitude towards business and unless they are tackled, the objective of introducing business education may not be achieved.

8 RECOMMENDATIONS

1. Students should be well motivated so that their interest in business education programme won't be deteriorated.
2. The curriculum planners should increase the numbers of periods allocated to core business education programme.
3. Curriculum planners should provide funds should be made to equip the business education programs at tertiary level and adaptation to what is done in the foreign world.
4. Workshops, Seminars should be attended by business educators at their spare leisure time so as to be update with vast knowledge and skills in business.
5. Government should employ more qualified teachers of business education courses to teach while those that are not qualified should be encourage to go for further teacher training programme so as to increase and boost their knowledge.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

REFERENCES

[1] Lieberman, A., Miller, L. Teacher leadership. San Francisco, CA: John Wiley & Sons, 2014.
[2] National Policy on Education. NERDC Press. Lagos, 2004.
[3] National Policy on Education. NERDC, Press. Lagos, 2013.
[4] Osuala, E.C. Principles and Practices of Small Business Management in Nigeria. Cheston Agency Ltd., Enugu, 2004.
[5] Ager S. Omniglot. Writing Systems and Languages of the World. Omnigolt.com: England, UK, 2015.
[6] Allen, I. Learning on demand; Online education in 2009. Sloan Consortium, 2010.
[7] Aribisala O.O. Students' competence and attitude towards entrepreneurship among business education students in Federal College of Education (Tech.), Akoka, Lagos, 2022.
[8] Briton, D., Snow, M.A., Wesche, M.B. Content Language Instruction. University of Michigan Press, 2010.
[9] Helterbran, V. Teacher leadership: Overcoming 'I am just a teacher' syndrome. Education, 2004, 131(2), 363-371.

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EVALUATION OF FACTORS INFLUENCING THE USE OF COMPUTER FOR TEACHING AND LEARNING PROCESS: IMPLICATIONS FOR MANAGEMENT OF SECONDARY SCHOOLS IN ANKPA LGA, KOGI STATE, NIGERIA

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Abstract: The researchers evaluate factors influencing the use of computers for the teaching and learning process and its: implications for the management of secondary schools in Ankpa LGA., Kogi state, Nigeria with the purpose of preferring plausible strategies to be adopted in their use for actualizing educational objectives in schools. Two research questions guided the study. A descriptive survey was adopted for the study. A sample of 120 computer teachers from 23 government-owned secondary schools was randomly selected for the study. Factors Affecting the Use of Computer for Education Questionnaire (FATUCEQ) served as an instrument for data collection. The data collected were analyzed with the aid of the mean. and standard deviation. The results revealed that the factors militating against the effective use of computers for teaching and learning in public secondary schools in Ankpa LGA of Kogi State are lack of skills, cost of the facilities, weak infrastructure, lack of relevant software, limited access to the internet, poor power supply and poor government policy; the strategies to be adopted include computer training for teachers, procurement of hardware facilities, curriculum development, software development, maintenance of computer system, adequate funding, increase in government allocation to computer studies and provision of internet facilities. It was recommended amongst other things that qualified teachers who are skilled in computer technology should be posted to various secondary schools in the state. Computer technology should be integrated into the school curriculum without further delay and be made an examinable subject at the secondary school level and the State Ministry of Power should work towards stabilizing the power supply in the state.
Keywords: Factors; Computer; Teaching and learning; Management; Secondary schools

1 INTRODUCTION

It is indisputable and hard to deny that the use of computers for teaching and learning has taken a prominent role in modern society in our secondary schools. From the smartphones in our pockets to the smart devices controlling our appliances at home and everything in between, computer technology is everywhere. It should come as no surprise that the use and impact of computers in teaching and learning have been steadily increasing and in many ways have revolutionized the traditional form of education in our Secondary schools.

Secondary school is the education children receive after primary education and before the tertiary stage. Achuonye is of the opinion that secondary education, as the name implies, comes second; that is, the second level of the three-tier system of education in Nigeria[1]. The broad aims of secondary education are preparation for useful living within society and preparation for higher education [2]. Secondary school is the bridge between the primary and tertiary levels. It is the springboard from where all the students of higher education take off and all primary school leavers must pass through to become useful to themselves and society. Improved secondary education is essential to the creation of effective human capital in any country [3].

The need for computers in Nigerian secondary schools cannot be overemphasized. In this technology-driven age, every secondary school requires ICT competence to survive. Organizations are finding it very necessary to train and re-train their employees to establish or increase their knowledge of computers and other ICT facilities [4]. This calls for the early acquisition of computer skills by students and teachers in secondary schools. The ability to use computers effectively in secondary schools has become an essential part of everyone in the field of education.

New instructional techniques that use computers provide a different modality of instruments. For secondary school students, computer use allows for increased individualization of learning. In secondary schools where new technologies are used, students have access to tools that adjust to their attention span and provide valuable and immediate feedback for literacy enhancement, which is currently not fully implemented in the Nigerian secondary school system [5]. Computer application and use will prove beneficial in improving Nigeria's educational system and giving students a better education in secondary schools. A technologically advanced workforce will lead to ICT growth in secondary schools in Nigeria, with the potential to improve technology and telecommunications, media communications, and skilled Information and Communication Technology (ICT) professionals who will be well-

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equipped to solve computer problems in Nigeria schools and other parts of the world [6]. Therefore, the use of these Computers is paramount to the existence of secondary schools.

The use of computers has brought changes in teaching and learning in secondary schools. The importance of computers in the field of teaching and learning cannot be overemphasized. Onuigbo and Onuigbo assert that the world is moving through the information super main road with the arrangement of computers that facilitate one to obtain relevant information for specific purposes[7]. Through computers, teachers in secondary school have contact to remarkable quality and reliable information in all areas of education. It serves as a platform for the acquisition and knowledge transfer between individuals, groups, students, and teachers in secondary schools [8]. Computers are one of the most valuable resources in a classroom because they serve so many useful functions. With computers and the internet, students today have a wealth of information at their fingertips that can help them develop their research and communication skills while preparing them for a future career in a workforce that is increasingly reliant on computer technology [9]. Computers have revolutionized the teaching profession in multiple ways. Teachers use computers to record grades, calculate averages, manage attendance, and access data on student performance in online programs and assessments. Computers have also made it easier for teachers to vary their instructional delivery. Instead of teaching at the front of the room for an entire class period, teachers can incorporate technology into their lessons to keep students engaged while appealing to a variety of learning styles. From using computers to create presentations on a topic to showing video clips that complement the lesson at hand, technology helps teachers make the content easier for students to understand [9]. Students who use computers gain a deeper understanding of complex topics and concepts and are more likely to recall information and use it to solve problems outside the classroom [10]. Effective use of these facilities brings about good teaching and learning.

Teaching and learning in the context of this study is the use of computers in secondary school for the purpose of the classroom situation in imparting knowledge to the students by the teacher. The teaching and learning process can be defined as a transformation process of knowledge from teachers to students. It is referred to as the combination of various elements within the process where a teacher identifies and establishes the learning objectives develops teaching resources and implements the teaching and learning strategy. Learning is a cardinal factor that a teacher must consider while teaching students. Learning can be considered as change that is permanent in nature because change is brought into students by a teacher through techniques like developing specific skills, changing some attitudes, or understanding specific scientific laws operating behind a learning environment [11]. It is the process of acquiring new or modifying existing knowledge, behaviours, skills, values, and preferences. However, in order to be an active learner in higher education, each student expects to be treated as an adult learner who has some right over the learning ambiance in the form of asking questions and clearing doubts [12]. That is, students expect to have ownership over the learning session [13].

Teaching is the act, practice, or profession of a teacher. It is the process of giving shape to one's thoughts and actions through instructions and/or performing practices that lead to new behaviour and capacity in the students. Teaching can be conducted using several methods based on the nature of the subject and customized according to students. Promoting inclusive teaching and learning through different pedagogical approaches may not be enough without the use of computers. It is essential to ensure that the use of computers in teaching the subject in secondary schools is encouraged. Using computers in the classroom gives teachers an opportunity to teach digital citizenship skills that demonstrate ways to use technology correctly and responsibly. Computers also help maximize student engagement. Modern students are regularly exposed to technology outside the classroom. Most use and enjoy smartphones and other mobile devices, which is why they are more likely to engage in the learning process if it involves something to which they are already accustomed and enjoy [9]. The benefits of using computers in the classroom go beyond more efficient assessment and opportunities for online learning. Computers and other technologies are an inevitable part of secondary schools.

Secondary schools in the Ankpa Local Government area of Kogi State presently and in all ramifications appear to have computer-related problems in terms of use. It is sad to hear the often negative opinion of most members of the public, especially the computer-literate class about students not using computers for teaching and learning. In addition, observation shows that the use of computer resources in secondary schools in Ankpa Local Government Area (LGA) of Kogi State was very low probably as a result of inadequate computer facilities or lack of it. The consequence is that it would affect the teaching and learning of students. It is on this premise that this work is set to assess the factors affecting the effective use of computers for teaching and learning and its implications for the management of secondary schools in Ankpa LGA of Kogi State.

Secondary schooling in Kogi state and past in Nigeria is regulated via the Ministry of Education (MOE). Teaching Service Commission (TSC) and Science Teachers' Education Board (STEB) are parastatals underneath MOE in Kogi state. The Teaching Service Commission (TSC) takes care of all the government-established secondary schools and grant-aided community and missionary secondary schools. In contrast, STEB takes care of all the science-based secondary schools in Kogi state. Secondary school administration in Kogi state can be examined underneath TSC and STEB [14]. The administration crew of secondary school beneath TSC encompass the chairman, member 1, 2, and 3, Permanent secretary of administration, Director of Administration and Finance (DAF), Director of Examinations, Director of Project Monitoring (DPM), Director of Sports, Director of Planning, Research and Statistics. Management of Secondary school under STEB consists of an Executive Director, part-time chairman, Permanent secretary 1, 2, and 3, everlasting secretary administration, Director of Administration and Finance (DAF), Director of Examinations, Director of Project Monitoring (DPM), Director of sports, Director of Planning, Research and Statistics. Both TSC and STEB are answerable to the Ministry of Education the place Hon. Commissioner for Education is the head of Kogi state.

Principals of all secondary schools function in micro-level administration features in Kogi state. Other individuals through prolonged administration encompass board individuals which have Zonal Directors, Principal Officers, senior teachers, Representatives of the community, and the Chairman, of the Parent Teachers' Association (PTA) [14]. They are all accountable for producing educational substances to enhance students' educational overall performance and increase secondary education though still face some challenges that hinder educational attainment in Nigeria.

There are several obstacles assumed to affect the use of computers in teaching and learning in Nigerian secondary schools. These impediments hinder the successful use of computer technology in secondary schools in Nigeria. Some of them are:

a. **Cost**: The price of computer hardware and software continues to drop in most developed countries, but in developing countries, such as Nigeria, the cost of computers is several times more expensive. Apart from the basic computers themselves, other costs associated with peripherals such as printers, monitors, paper, modems, and extra disk drives are beyond the reach of most secondary schools in Nigeria. The schools cannot also afford the exorbitant Internet connection fees [15].

b.**Weak Infrastructure**: In Nigeria, a formidable obstacle to the use of computer technology is infrastructure deficiencies. Computer equipment was made to function with other infrastructure such as electricity under "controlled conditions". For the past fifteen years, Nigeria has been having difficulty providing a stable and reliable electricity supply to every nook and cranny of the country without success. Currently, there is no part of the country, which can boast of an electricity supply for 24 hours a day except probable areas where government officials live. When the electricity supply is not stable and constant, it is difficult to keep high-tech equipment such as computers functioning, especially under extreme weather conditions as obtained in Nigeria. In rural Nigeria most inhabitants do not have access to electricity, thereby denying rural secondary schools the opportunity to benefit from the use of computer technology. The little internet access available in Nigeria is found in urban centres.

c. **Lack of Skills**: Nigeria does not only lack computer technology infrastructure, it also lacks the human skills and knowledge to fully integrate computer technology into secondary school education. To use computer technology in secondary schools in Nigeria, the need for locally trained workers to install, maintain and support these systems cannot be over-emphasized. There is an acute shortage of trained personnel in application software, operating systems, network administration and local technicians to service and repair computer facilities. In Nigeria also, most secondary school teachers lack the skills to fully utilize technology in curriculum implementation hence the traditional chalk-and-duster approach still dominates in secondary school pedagogy. Information transfer using computer technology is minimal or non-existent in secondary schools in Nigeria [16]. Teachers need effective tools, techniques, and assistance that can help them develop computer-based projects and activities specially designed to raise the level of teaching in required subjects and improve student learning.

d. **Poor ICT Policy/Project Implementation Strategy**: The Nigerian Federal Government's 1988 National policy on Computers, introduced computer education to secondary schools [17]. The only way this policy was implemented was through the distribution of computers to federal government high schools, which were never used for computer education of the students. No effort was made to distribute computers to state schools or private schools. Although the government planned to integrate ICT into the school system and provide schools with infrastructure, concerted efforts have not been made to provide facilities and trained personnel. Thus, most schools do not yet offer ICT training programmes [6].

e. **Lack of Relevant Software**: There is no doubt that the ultimate power of computer technology is the content and the communication. Though software developers and publishers in developed countries have been trying for a long to develop software and multimedia that have universal applications, due to the differences in education standards and requirements, these products do not integrate into curricula across countries. Software that is appropriate and culturally suitable to the Nigerian education system is in short supply.

f. **Limited Access to the Internet**: In Nigeria, there are few reputable Internet providers which render reliable services, and charge high fees thus limiting access to the use of the Internet. Secondary schools in Nigeria are not given adequate funds to provide furniture, requisite books, laboratories and adequate classrooms let alone being given adequate funds for high-tech equipment (computers) and Internet connectivity. Nigeria is lagging behind other African countries such as Uganda, Senegal and South Africa which are already helping secondary school students in those countries to become better information users. All Internet service providers in Nigeria are based in urban areas.

The state of computer learning and teaching in African countries, including Nigeria is minimal compared to other developed countries. In order to have computer training successfully implemented in Africa, there is a need to consider the cost, human capabilities, and infrastructure among others [18]. Unfortunately, African countries especially Nigeria lacks the funding and capacity to effectively implement computer training in secondary schools, Philip and Josiah noted that inadequate computer in the schools and lack of computer literacy and sponsorship of computers/IT training program are the major challenges encountered in Nigeria[19]. Poor service caused by capacity constraints of the communication network, lack of infrastructure to support technology hardware and software, scarcity of financial resources, and an unreliable electric supply in Nigeria hinders computer usage in Nigeria [20]. The basis for the worry in this study is the factors affecting the use of computers for effective teaching and learning in public secondary schools of Ankpa LGA of Kogi state that are yet to be known.

With reference to strategies adopted by the management for enhancing the effective use of computers for teaching and learning in Kogi state, Philip and Josiah stated the modalities and the strategies for achieving the objectives of information and computer technology in today's society to include[19], training teachers and associated personnel,

procurement of hardware facilities, curriculum development, software developments, and evaluation as well as maintenance of hardware and peripherals. Adequate funding is expedient for ensuring proper improvement of computer studies at primary and post-primary schools in Nigeria. According to Ayogu [21], computer study is costly. Many strategies have to be put in place to finance computer studies. Ayogu however emphasized that such strategies for raising funds for computer studies could come from the government, private sectors, community, and or endowments. The world is growing so complicated in science and technology that we need to buckle up to the challenges in this digital age he concluded. The worry is, that these strategies are effective elsewhere, and yet to be known if they are effective in Ankpa LGA of Kogi state.

Another strategy according to Barnett and Eric was that administrators and policymakers must ensure that comprehensive strategies[22], as well as programs to recruit, train, and retain teachers, are in place. They should also include new financial incentives, improved working conditions, and better support for teachers in secondary schools. According to them, money is not enough; teachers need to feel supported, prepared, and justly rewarded to put in their best in the teaching and learning process. Nwangwu however noted that teaching and learning can be actualized in this information age through information literacy[23]. It has no barrier, for it cuts across every discipline, learning experience, and all levels of education. According to Nwangwu, information literacy helps learners to master content and expand their horizon of investigation, become more focused, and more condiment in their learning. To be in line with this information age, it, therefore, becomes imperative to refocus the quality of both teaching and learning. To refocus teaching and learning, Nwangwu argued that electronic delivery learning (e-learning) is required. This discourse boosts the interest of the researchers to carry out this research to reiterate and recommend the purchase of such electronic devices in schools to ease the actualization of educational objectives in Kogi state. In furtherance of strategies, Onuoha is of the view that alternative sources of revenue should be designed[24]. This means that educational institutions should take measures to increase their internally generated revenue. According to this researcher, through an increase of funds allocated to secondary schools, the establishment of business centres, allowing businessmen who are interested in the institution to develop and pay rents to schools at the end of the school term or year, encouraging good relationships/links with the institutions' old boy/girls-associations to enable them to pay back to the institution through endowment, grant or donation, etc. The researcher went further to state that investment in cash/ICT facilities received from ICT competitions or debates as well as making schools that offer computers pay the extra fees can be a strategy. The researcher directed that levies can be imposed on students when collecting their certificates and reiterated the increase in government allocation to computer studies. These strategies may or may not be effective in the present area of study due to variations in location and perceptions.

Some strategies suggested by Omoniyi involve the training of personnel of schools even on distant education[25], purchase as well as the connection of computer gadgets to the Internet, and reduction of cost of Internet connection by the Federal Government. Other suggestions proffered include an extension of emphasis on computer technology to cover other less sophisticated computer gadgets and the electrification and provision of some steady electricity supply, especially in communities where the Universities are located. Aliyu, recommends that the government of the federation should provide scholarship awards and donation of computer equipment to secondary schools[26]. These will make training in computer skills easier and enhance academic excellence. Still, On the provision of funds, Chisenga observed that central and local governments should provide adequate funding to secondary school services if they are to deploy appropriate Information and Communication Technology (ICT) and play an active role in the provision of access to global information resources[27]. Ugwu, F. N. and Ezeani school authorities can solicit assistance from corporate bodies, philanthropists, and friends of the library[28]. According to Okebukola [17], the problem of inadequate awareness of the use of computers could be addressed through planned public relations programmes, study tours, user education programmes, exhibitions, organization of seminars, symposia, and workshops, awards night, making contact with the staff and improve communication links with the latter. However, strategies to be adopted by the management for enhancing the effective use of computers for teaching and learning and its implications for the management of secondary schools in Ankpa LGA of Kogi are yet to be known.

2 PURPOSE OF THE STUDY

The main purpose of this study was to examine factors affecting the effective use of computers for teaching and learning in secondary schools in Ankpa LGA of Kogi State. Specifically, the study sought to:

I.Examine the factors influencing the effective use of Computer in Teaching and Learning in Secondary Schools in Ankpa LGA of Kogi State

II.Ascertain the plausible strategies to be adopted for enhancing the effective use of computers for teaching and learning in Secondary Schools in Ankpa LGA of Kogi State.

3 RESEARCH QUESTIONS

The following research questions guided the study:

I.What are the factors affecting the effective use of computers for teaching and learning in secondary schools in Ankpa LGA of Kogi State?

II.What are the strategies to be adopted for enhancing the use of computers for teaching and learning in secondary schools in Ankpa LGA of Kogi State?

4 RESEARCH METHODS

The study adopted a descriptive survey design. This is because the design does not aim at discovering new phenomena, but is concerned with the description of conditions that exist. This method, therefore, facilitates the easy collection of data. The design was considered appropriate for the study because the researchers do not have any intention to manipulate the study's variables, but to study them as they occur naturally. The area of study was Ankpa LGA. Ankpa Local Government Ankpa was purposively selected for the study. The choice of Ankpa for the study was informed by the observed backwardness in the results of computer examination which geared the interest of the researchers to carry out the research on the factors affecting the effective use of computers for teaching and learning in secondary schools of Ankpa LGA of Kogi state. The study population involves all 23 public secondary schools which comprised senior secondary school teachers totaling 1,204 in Ankpa LGA of Kogi state. The choice of this population was based on the fact that they are the subjects of the study and can provide accurate data needed for the study. The sample used for this study was one hundred and twenty (120) teachers. These were selected from the population of the study identified above using a simple random sampling method. The teachers were randomly selected from seventeen (17) secondary schools across the nine districts. Each of the districts was sampled.

The instrument for data collection was a self-developed questionnaire titled The Use of Computer for Education Questionnaire (FATUCEQ). FATUCEQ consists of two parts designed to elicit responses from respondents. Section "A" Sought background information about the respondents while section "B" of the FATUCEQ consists of the questions to answer by the respondents and was clustered into A and B with four-point response mode of Strongly Agree (SA) =4, Agree (A) =3, Disagree (D) =2 and Strongly Disagree (SD) =1. FATUCEQ was carefully read through by four experts. Two from the Computer Science Department, one expert from Educational Management, and one from Measurement and Evaluation, all from Federal University Oye-Ekiti, Ekiti state. This was aimed to ensure that all issues and questions were relevant and properly addressed in the research topic. To ensure reliability, the FATUCEQ was administered to twenty (20) selected staff outside the study area to ensure the internal consistency of the instrument. Their responses were analyzed on the SPSS with the Cronbach Alpha method and yielded 0.82 and 0.81 with the overall index being 0.81 indicating that the instrument is 81% reliable for use. Copies of the questionnaire were administered by the researchers to the respondents (teachers) in the districts of Ankpa LGA of Kogi state. This was to enable the researcher to get first-hand information from the respondents on the subject. Two research assistants were enlisted and trained on how to administer and retrieve the questionnaire. The researchers visited the various secondary schools with the aid of those assistants and administered the questionnaires which were used to obtain accurate information from respondents. In analyzing the data collected, the researchers made use of mean and standard deviation to determine the factors affecting the effective use of computers for teaching and learning in secondary schools of Ankpa LGA of Kogi state. The cut-off point for determining the acceptance and rejection was put at 2.50. Any item with a mean of 2.50 above was meant for acceptance while an item with a mean score less than 2.50 was a rejection.

5 RESULTS

Research Question 1: What are the factors militating against the effective use of computers in Teaching and Learning in Secondary Schools in Ankpa LGA of Kogi State?

Table 1 Mean Responses on the Factors Militating Against the Effective Use of Computer in Teaching and Learning in Secondary Schools in Ankpa Local Government Area of Kogi State

S/NO	ITEMS	SA	A	D	SD	TOTAL	X	DECISION
1	Lack of skills	47	61	7	5	3.25	1.80	Accepted
2	Cost of the facilities	74	38	6	2	3.53	1.87	Accepted
3	Weak infrastructure	51	49	16	4	3.22	1.79	Accepted
4	Lack of relevant software	55	41	13	11	3.03	1.74	Accepted
5	Limited access to the internet	57	47	16	0	3.34	1.82	Accepted
6	Poor power supply	74	22	14	10	3.33	1.82	Accepted

7	Poor government policy	58	32	15	15	3.10	1.76	Accepted
	Overall mean					**3.25**	**1.80**	

Source: Field work 2022

Table 1 above shows the mean responses of respondents on the factors militating against the effective use of computers in Teaching and Learning in Secondary Schools in Ankpa Local Government Area of Kogi State. The table shows items that 1, 2, 3, 4, 5, 6, and 7 were rated as 325, 3.53, 3.22, 3.03, 3.34, 3.33, and 3.10 with their corresponding standard deviation to be 1.80, 1.87, 1.79, 1.74, 1.82, 1.82 and 1.79 showing acceptance to all the items as factors affecting the effective use of computer for teaching and learning in secondary schools of Ankpa LGA of Kogi state. The overall mean of 3.25 with a corresponding standard deviation to be 1.80 was also significant meaning that the respondents agreed with the items of investigation as the obvious factors affecting the effective use of computers for teaching and learning among secondary schools in the area.

Research Question 2: What are the strategies needed for enhancing students' use of Computers in Teaching and Learning in Secondary Schools in Ankpa local government area of Kogi State?

Table 2 Means Responses on the Strategies Needed for Enhancing Students' Use of Computer in Teaching and Learning in Secondary Schools in Ankpa Local Government Area of Kogi State

S/NO	ITEMS	SA	A	D	SD	X	SD	DECISION
8	Computer training for teachers	66	29	13	12	3.24	1.80	Accepted
9	Procurement of hardware facilities	59	51	4	6	3.35	1.83	Accepted
10	Curriculum development	65	31	11	3	2.57	1.60	Accepted
11	Software development	44	54	13	6	3.08	1.75	Accepted
12	Maintenance of computer system	60	31	12	17	3.11	1.76	Accepted
13	Adequate funding	37	47	29	7	2.95	1.71	Accepted
14	Increase in government allocation to computer studies	47	66	7	0	3.33	1.82	Accepted
15	Provision of internet facilities	51	49	16	4	3.22	1.79	Accepted
	Overall mean					**3.10**	**1.76**	

Source: Field work 2022

Table 2 shows the mean responses of respondents on the strategies needed for enhancing the use of computers for teaching and learning in secondary schools in Ankpa LGA of Kogi State. The table shows that items 8, 9, 10, 11, 12, 13, 14 and 15 were rated as 3.24, 3.35, 2.57, 3.08, 3.11, 2.95, 3.33 and 3.22 with their corresponding standard deviation of 1.80, 1.83, 1.60, 1.75, 1.76, 1.71, 1.82 and 1.79 showing acceptance to all the items as strategies to be adopted to enhance the effective use of computer for teaching and learning in secondary schools in Ankpa LGA of Kogi state. The overall mean of 3.10 with a corresponding standard deviation of 1.76 reveals that respondents agree to those items of investigation as the obvious strategies needed for enhancing the use of computers for teaching and learning in Secondary Schools in Ankpa LGA of Kogi State.

6 DISCUSSION OF FINDINGS

The first findings on factors that could influence the effective use of computers for teaching and learning in secondary schools in Ankpa LGA of Kogi State revealed that lack of skills, cost of the facilities, weak infrastructure, and lack of relevant software, limited access to the internet, poor power supply and poor government policy are factors discovered to affect the ineffective use of computers for teaching and learning in schools. This finding is possible considering the observed poor funding of the education sector resulting in poor attention of the Kogi state government in the area. This finding is in accordance with the findings of Philip and Josiah who noted that inadequate computers in the schools, cost of the computer facilities[19], lack of computer literacy, limited access to the internet, poor power supply, and sponsorship to computers/IT training program are the major challenges encountered in Nigeria secondary schools. On the same issue Tayo, Thompson, and Thompson[20] also found that Poor service caused by capacity constraints of the communication network, lack of infrastructure to support technology hardware and software, scarcity of financial resources, and an unreliable electric supply in Nigeria hinders computer usage in Nigeria schools

The second finding of the study revealed the strategies needed for enhancing the effective use of computers for teaching and learning in secondary schools in Ankpa LGA of Kogi State, which is an organization of quality computer training for teachers; procurement of hardware facilities, curriculum development; software development, maintenance of computer system; adequate funding; increase in government allocation to computer studies and provision of internet facilities. This finding is in line with the finding of Philip and Josiah who stated that the modalities and the strategies for achieving the objectives of the impact of information and computer technology on today's society include[19], training

teachers and associated personnel, procurement of hardware facilities, curriculum development, software developments and evaluation as well as maintenance of hardware and peripherals. In support of this Ayogu also asserted as part of the strategies[21], that training of teachers, development of the curriculum, sufficient funding of secondary schools, and maintenance of computers should be adopted for effective teaching and learning in secondary schools.

7 IMPLICATIONS OF FINDINGS TO THE MANAGEMENT OF SECONDARY SCHOOLS

The first finding revealed a lack of skills, cost of the facilities, weak infrastructure, lack of relevant software, limited access to the internet, poor power supply, and poor government policy as the factors militating against the effective use of computers for teaching and learning in secondary schools in Ankpa LGA of Kogi State This finding implies that knowledge could be poorly and manually imparted into the learners by the teachers which may lead to poor actualization of educational objectives in school. The implication of this finding is that quality education may not be guaranteed and the products of the schools in the area may not be able to compete favourably with their counterparts in other schools where these facilities are sufficiently available with much blame on the part of the management of schools. The second finding revealed that organization of computer training for teachers, procurement of hardware facilities, curriculum development, software development, maintenance of computer systems, adequate funding, increase in government allocation to computer studies, and provision of internet facilities as strategies adopted for enhancing the use of computer in teaching and learning in secondary schools in Ankpa LGA of Kogi State. This implies that the management of schools requires that the adoption of these strategies is the sine qua non for the actualization of educational objectives in their schools. The implications of this finding to the management of secondary schools are that the performance of students in school and after graduation may be credited to the management team of the college. Besides, secondary schools in such areas may be patronized by people from far and near which boosts the institution's revenue and facilitates developmental stride in the area.

8 CONCLUSION

Based on the findings, the study concluded that the factors influencing the effective use of Computer for teaching and learning in secondary schools are lack of skills, cost of the facilities, weak infrastructure, lack of relevant software, limited access to the internet, poor power supply and poor government policy. Furthermore, it was concluded that organization of computer training for teachers, procurement of hardware facilities, curriculum development, and software development, maintenance of computer systems, adequate funding, an increase in government allocation to computer studies, and provision of internet facilities should be used as strategies to enhance effectiveness in the use of computer for teaching-learning process.

9 RECOMMENDATIONS

The following recommendations were made based on the findings of the study:
i.Government should provide funds to procure computer facilities for schools or better still, directly procure computer facilities for the use of the schools.
ii.Computer training should be organized for the in-service teachers to equip them with the knowledge, skills, attitude, and capability. This will make them effective in the use of computers for teaching and learning all school subjects.
iii.The Parent- Teachers' Associations (PTAs) are encouraged to get involved in building computer laboratories in schools. They should also blaze the tail by procuring and equipping such rooms with computer facilities necessary for the teaching of school subjects
iv.Computer software, supporting devices, and support staff should be provided in schools not only to encourage teachers in the use of computers in teaching but also to assist them in acquiring the skills themselves.
v.Qualified teachers skilled in computer technology should be posted to various secondary schools in Nigeria. This will bring about the effective actualization of educational objectives in school.
vi.Computer technology should be integrated into the school curriculum without further delay and become examinable subjects at the secondary school level. This forms the basis for providing a sound background for the study of computer technology in tertiary institutions.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

REFERENCES

[1] Achuonye, K A. Trends in Nigeria education innovations. Port Harcourt, Nigeria: Pearl publishers. 2017.
[2] Agim J C. Reforms and Innovation in Secondary Education through Community Participation. Journal of Teacher Perspective, 2013, 3(2): 24-32.
[3] Evoh, C J. Policy networks and the transformation of secondary education Through ICTs in Africa: The prospects and challenges of the NEPAD E-schools Initiative. International Journal of Education and Development Using Information and Communication Technology (IJEDICT), 2017, 3(1): 64-84.

[4] Adomi, E, Kpangban, E. Application of ICTs in Nigerian secondary schools. Library Philosophy and Practice, 2020.
[5] Shaibu, L, Bassey, M M. Managing ICT for Effective Secondary School Students' Academic Performance and Sustainable Development in Kogi East Education Zone. International Journal of the Forum for African Women Educationalists FAWE, 2018, 5(3): 175-184.
[6] Goshit, T. Nigeria's need for ICT: ES. 259 technology and policy in Africa. ES.259 Information and Communication Technology in Africa, 2006.
[7] Onuigbo, S M, Onuigbo, L N. Teaching students with speech And language disorder: The Computer-assisted strategy. International Journal of Arts and Technology Education, 2016, 5(1): 61-81.
[8] Ejinwa, E. Evaluation of the use of E-learning as an instructional delivery mode in the National Open University of Nigeria, South East Nigeria. Unpublished Thesis presented in partial fulfillment of the requirements for the award of Doctor of Philosophy (Ph. D) degree in educational technology in Enugu State University of Science and Technology Enugu. 2018.
[9] Kristina B. Uses of Computer in Education. The Classroom | Empowering Students in Their College Journey. 2019.
[10] Ogunsola, L A. Information and communication technologies and the effects of globalization: twenty-first century" digital slavery" for developing countries--myth or reality. Electronic Journal of Academic and Special Librarianship, 2005, 6(1-2).
[11] Sequeira, A H. Introduction to Concepts of Teaching and Learning. SSRN Electronic Journal, 2012. DOI:10.2139/ssrn.2150166.
[12] Michael, J A, Modell, H I. Active learning in college and science classrooms: A working Model helping the learner to learn. Lawrence Erlbaum Associates Publishers: London. 2003. DOI:10.4324/9781410609212.
[13] Mitra, S. Disability, Health and Human Development. Palgrave MacMillan: New York. Critical Studies in Teaching and Learning, 2018, 7(2). DOI: 10.14426/cristal.v7i2.242.
[14] Shaibu, L, Isah, H. Promoting Secondary School Workers' Education for Effective Job Performance and Effective Service Delivery in Kogi East Education Zone. Ewemen Journal of Art and Sociology, 2018, 3(1): 32-42.
[15] Chijioke A I. Computer Technology in Nigerian Secondary School Education: Problems and Prospects. Journal of Resourcefulness and Distinction, 2013, 6(1).
[16] Anao, A R. Society, knowledge incubation and management - Lagos. The Guardian, 2013, 544-555.
[17] Okebukola, P. Old, new, and current technology in education. UNESCO Africa, 2013, 14(15): 7-18.
[18] Ogbuiyi D C. Influence of computer literacy on students in three University Libraries in South-Western, Nigeria. Journal of Humanities and Social Science, 2015, 19(7): 49-53.
[19] Philip, O J, Josiah, A O. Computer education in Nigeria secondary schools: Gaps between policy and practice. 2003.
[20] Tayo O, Thompson R, Thompson E. Impact of the digital divide on computer use and internet access on the poor in Nigeria. Journal of Education and Learning, 2015, 5(1): 1. DOI:10.5539/jel.v5n1p1.
[21] Ayogu, Z U. Computer literacy: A sustainable tool in the information age. Journal of Education in the Information Age, 2013, 1, 545-549.
[22] Barnett, B, Eric, H. Recruiting and retaining teachers for hard-to-staff schools. N G A Center for Best Practices, Washington, D.C. 2005.
[23] Nwangwu, I G O. Refocusing teaching and learning in the information age. Journals of Education in the Information Age, 2017, 1, 334-338.
[24] Onuoha, J C. Economic of knowledge management in the information age. Global challenges and enhancement strategies. Journal of Education in the Information Age, 2018, 1, 65-70.
[25] Omoniyi, J O. Investigation of literacy skills possessed by library cataloguers in higher institutions, in Kwara State. Journal of Curriculum and Instruction, 2015, 6(1): 75-86.
[26] Aliyu, I. Analyzing the Prospective Opportunities of Entrepreneurship Development for Youths Empowerment (December 30, 2014). OIDA International Journal of Sustainable Development, 2014, 07(12): 39-46.
[27] Chisenga, J. The use of information and communication technologies (ICTs).In African University Library Services. Oxford: INASP. 2014.
[28] Ugwu, F N, Ezeani, C N. Challenges of Entrepreneneurship Among University Graduates As Viewed By Post-Graduate Students In Two Universities In South East Nigeria. International Journal of Research in Arts and Social Sciences, Nsukka (IJRASS), 2013, 5, 398-415.

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STUDY ON MEDIA USE AND PSYCHOLOGICAL WELL-BEING OF COLLEGE STUDENTS: A CASE STUDY BEFORE AND AFTER THE END OF THE COVID-19 PANDEMIC

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Abstract: The impact of media use on life is multifaceted. College students are a group that uses media frequently. Based on survey data collected before and after the end of the COVID-19 pandemic, this study explores the influence of media use on the Psychological Well-being of college students. The investigation reveals significant changes in media usage duration and types before and after the pandemic, along with notable differences in Psychological Well-being, directly correlated with media use.
Keywords: Media use; Psychological well-being; College students

1 INTRODUCTION

The media contact awareness and usage behavior of college students are significantly influenced by shifts in information channels, communication methods, and the surrounding social environment. Historically, the rise of new media technologies has transformed the way individuals, particularly young adults, access and engage with information. College students, often at the forefront of digital adoption, are particularly susceptible to fluctuations in media consumption patterns due to their frequent use of social media platforms, news websites, and other online tools. Over the years, changes in the media landscape—such as the proliferation of smartphones, increased access to high-speed internet, and the emergence of multimedia content—have continuously reshaped how this demographic interacts with information[1]. Notably, the COVID-19 pandemic marked a critical turning point in media consumption habits, as global lockdowns, social distancing measures, and widespread remote learning led to a surge in the time spent online. For college students, media became a primary means of staying informed, maintaining social connections, and coping with unprecedented changes in their daily lives [2].

Research during the pandemic has highlighted that the increased reliance on media—whether through news, social media, or entertainment platforms—was closely linked to the psychological well-being of students. The heightened exposure to both positive and negative content during this period had direct implications on their emotional states, stress levels, and overall mental health [3]. For example, the constant stream of news regarding the pandemic, combined with extended periods of social isolation, often led to heightened anxiety, uncertainty, and feelings of loneliness. Conversely, for some students, media platforms provided vital social support and entertainment, offering distractions and virtual connections that helped mitigate the adverse effects of isolation [4].

This study aims to delve deeper into the intricate relationship between media use and psychological well-being, particularly in the context of social and environmental changes. By examining survey data collected both before and after the height of the COVID-19 pandemic, the study seeks to understand how shifts in media usage patterns correspond with changes in mental health outcomes. The focus will be on identifying whether media consumption behaviors that emerged during the pandemic have had a lasting impact on students' well-being or if these behaviors reverted to pre-pandemic norms as social restrictions eased. Ultimately, the goal is to contribute to the growing body of literature on the dynamic role of media in shaping psychological well-being, especially in times of crisis and recovery [5].

2 RESEARCH DESIGN AND IMPLEMENTATION

2.1 Questionnaire Design

This study employs a questionnaire survey method, divided into three parts:

2.1.1 Demographic information

Including gender, university, and place of origin.

2.1.2 Media usage survey

Including the duration of media exposure, types of media usage, purposes of media contact, and categories of media.

2.1.3 Psychological well-being survey

Focusing on:

(1) The impact of media reports on subjective emotions during the pandemic.
(2) Measurement of emotional scales before and after the pandemic.
(3) Measurement of life satisfaction before and after the pandemic.

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2.2 Data Collection

In October 2023, a large-scale survey was conducted among students from seven universities located in Henan Province, China. The universities included Zhengzhou University, Henan University of Finance and Economics, Henan Normal University, and Anyang Normal University, among others. The aim of this survey was to collect data on students' psychological well-being as part of a broader research effort into mental health trends among young adults in higher education institutions. A total of 554 questionnaires were distributed to the selected universities. Out of these, 525 completed questionnaires were returned, yielding a return rate of approximately 94.76% [6]. However, upon closer examination, 34 of the returned questionnaires were identified as invalid due to incomplete or inconsistent responses, leaving a total of 491 valid responses. This resulted in an effective response rate of 93.5%, which is considered quite high and indicative of the students' engagement and interest in the survey.

The demographic breakdown of the respondents showed a nearly balanced distribution in terms of both geographic origin and gender [7]. Specifically, 53.97% of the participants were from rural areas, while 46.03% came from urban settings. This distribution reflects the overall composition of Henan Province, where rural populations traditionally dominate but urbanization has been increasing. Regarding gender, male students comprised 52.2% of the sample, while female students accounted for 47.38%, which suggests a fairly equitable gender representation in the study. Such a balanced sample enhances the generalizability of the study's findings across different student populations in Henan Province.

The data analysis was conducted using SPSS version 23.0, focusing on the reliability and validity of the Psychological Well-being scales used in the questionnaire [8]. The reliability of the scales was assessed through Cronbach's α, a widely used measure of internal consistency. The overall Cronbach's α value for the scale was calculated to be 0.962, significantly higher than the commonly accepted threshold of 0.9, indicating that the scale had excellent reliability. Furthermore, validity was examined using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity. The KMO value was found to be 0.96, which is considered "superb" according to standard criteria, while the Bartlett test yielded a P-value of less than 0.001. These results confirm that the data were suitable for factor analysis and that the questionnaire exhibited strong construct validity. Thus, the instruments used in the study were both reliable and valid, ensuring that the findings can be trusted and meaningfully interpreted [9].

3 RESEARCH RESULTS AND ANALYSIS

3.1 Media Usage Among College Students

As shown in Table 1, there are significant differences in media exposure duration before and after the COVID-19 pandemic. Data indicate that during the pandemic, 49.69% of college students engaged with media for over 8 hours, with 79.22% spending more than 6 hours online daily. After the pandemic, the percentage of students using media for over 8 hours dropped to 27.29%, and those spending more than 6 hours online daily decreased to 63.75%, showing a clear downward trend [10].

Table 1 Survey on Media Usage Among College Students

Survey Content		Survey Data: Number (Percentage %)	
		COVID-19 Pandemic Period	Post-COVID-19 Pandemic
Media Exposure Duration (hours/day)	1-3	22（4.48)	49(9.98)
	3-6	80(16.29)	129(26.27)
	6-8	145(29.53）	179(36.46）
	8 and above	244（49.69)	134（27.29）
Media Exposure Method	Active Exposure (actively updating, checking, commenting, replying)	225（45.82）	234(47.66)
	Passive Exposure (browsing information, push notifications)	48(9.78)	59（12.02)
	Active and Passive Exposure	215（43.79)	195(39.71)
	No Exposure	3(0.61)	3(0.61)

Type of Media Exposure	Central Mainstream Media (People's Daily, Xinhua News Agency, CCTV, etc.)	117（23.83)	36(7.33)
	News Websites or Information Platforms (Today's Headlines, Tencent, NetEase, etc.)	40(8.15)	39（7.94)
	Self-Media (Guokr, DXY, etc.)	17(3.46)	23(4.68）
	Social Platforms (Weibo, WeChat, QQ, Douyin, etc.)	286(58.25)	359（73.12)
	Campus Media (official campus WeChat, Bilibili, etc.)	31(6.31)	34（6.92)
Purpose of Media Exposure	Dynamic News, Keeping Up-to-Date	200(40.73)	48(9.78)
	Communication and Social Interaction	80(16.29)	155（31.57)
	Learning Skills, Self-Improvement	59(12.02)	82(16.7)
	Leisure and Entertainment, Passing Time	152(30.96)	206(41.96)

College students exhibited a clear active motivation for media engagement, with no significant differences observed before and after the pandemic. However, a noticeable difference was seen in the purpose of media contact. During the pandemic, 40.73% of respondents indicated that their primary purpose for media engagement was "to keep updated with dynamic news", which dropped to only 9.78% afterward. Post-pandemic, "leisure and entertainment" and "communication and social interaction" became the main reasons for media use, accounting for 41.96% and 31.57%, respectively, reflecting an increase of 11% and 15.28% compared to the pandemic period.

Significant differences were also evident in the types of media accessed [11]. The proportion of students selecting traditional mainstream and authoritative media dropped from 23.83% during the pandemic to 7.33% afterward, while those choosing social platforms such as WeChat, QQ, and Weibo rose from 58.25% before the pandemic to 73.12%.

3.2 Measurement of Psychological Well-being Among College Students

Psychological Well-being is understood as a unique feeling—an overall evaluation derived from an individual's assessment of recent positive and negative emotions[12]. This survey incorporates positive emotions, negative emotions, and life satisfaction as primary dimensions of Psychological Well-being, integrating Diener's Satisfaction with Life Scale (SWLS), the revised Memorial University of Newfoundland Scale of Happiness (MUNSH) by Stones and Kozma, and the Happiness Questionnaire (MHQ) compiled by Miao Yuanjiang.

During the pandemic, 66.53% of respondents reported feeling troubled by media reports, with only 33.46% indicating that their emotions were not affected by media fluctuations. Additionally, the proportions of those reporting "very troubled" and "somewhat troubled" exceeded 35%, indicating that negative emotions among college students during the pandemic were significantly influenced by media usage.

Emotional measurement indices show that significant differences in emotional perception regarding media reports existed before and after the pandemic, primarily evident in emotions such as "happiness", "anger", "sadness", "joy", "pleasure", and "worry". The indices indicated that during the pandemic, "worry" and "gratitude" emotions were notably high, with negative emotional scores elevated. Post-pandemic, averages for "happy", "joyful", and "pleased" exceeded 4.8, becoming the emotions with higher scores, thus indicating a significant enhancement in the perception and level of Psychological Well-being among college students.

4 RESEARCH CONCLUSIONS AND DISCUSSION

4.1 Exploration of the Correlation Between Media Use and Psychological Well-being

During the COVID-19 pandemic, an overwhelming amount of complex information circulated widely, much of which included misinformation, rumors, and conflicting reports. This flood of information not only created confusion but also significantly heightened public anxiety and perceptions of risk. Among those most affected by this situation were college students, whose psychological and emotional states became increasingly volatile. The changes in how students accessed information—through new and often unreliable channels—combined with the uncertainty of the pandemic itself, further exacerbated their mental health challenges. With a shift in their learning environments, often from on-

campus social settings to more isolated online formats, many students found themselves struggling to adapt to both the academic and emotional demands of the pandemic.

Reports consistently show that the demand for psychological services surged during the pandemic, particularly among younger adults aged 18-25. This age group, which includes most college students, experienced notably higher levels of anxiety than other demographic groups. In fact, research findings indicate that their anxiety levels significantly exceeded those of older age cohorts, highlighting the unique pressures faced by young adults. Among the major contributing factors was the heightened uncertainty surrounding the future, coupled with financial and academic stresses. College students, in particular, faced increased survival and living pressures, which led to heightened anxiety levels and a growing sense of vulnerability.

The survey findings underscore the significant impact of these factors. A key measurement item, "Have you felt troubled by media reports about the pandemic?" received an average score as high as 3.02, illustrating the extent to which media consumption contributed to the psychological strain on students. The continuous exposure to alarming and often contradictory news about the pandemic intensified feelings of fear, uncertainty, and frustration, leading to a pervasive sense of unease. As a result, media usage during this period played a critical role in shaping students' psychological well-being, further highlighting the need for effective mental health interventions and support systems tailored to this vulnerable population.

4.2 Discussion of Differences in Media Use and Psychological Well-being Before and After the Pandemic

Research indicates that during the pandemic, information consumption was characterized by high frequency and short duration, leading to a phenomenon known as "Fear of Missing Out" (FoMO), which refers to the anxiety and concern individuals experience from not being able to access information in a timely manner.

During the COVID-19 pandemic, the prolonged periods of isolation and restrictions on mobility significantly impacted the daily lives of college students. Surveys revealed that nearly 80% of college students were engaging with media for over 8 hours each day, highlighting a drastic increase in media consumption compared to pre-pandemic levels. This substantial rise in media usage can be partly attributed to the students' need to maintain a connection with the outside world, which was severely restricted due to quarantine measures and social distancing guidelines. The phenomenon of Fear of Missing Out (FoMO) became particularly evident within this demographic, as many students developed a strong desire to stay informed and in touch with external events, social circles, and global updates. The need to be constantly connected, combined with the limitations of physical interaction, drove students to spend more time on social media, news platforms, and other digital forms of communication.

The emotional toll of this increased media usage became clear as reports of heightened anxiety during this period surged. The excessive use of media, particularly in the context of social isolation, fostered a sense of reliance on digital platforms that often presented overwhelming or contradictory information. This reliance, while initially serving as a coping mechanism to deal with isolation, soon led to more significant psychological challenges. As students became increasingly absorbed in media consumption, they often found it difficult to concentrate on their academic responsibilities, resulting in a decline in productivity and focus. The constant barrage of information, much of it negative or alarming, also led to feelings of distrust, dissatisfaction, and frustration with the media itself.

Furthermore, the combination of media overload and academic underachievement contributed to escalating levels of anxiety and panic. Students who were unable to filter or critically assess the vast amounts of information they were exposed to became more susceptible to emotional distress. This, in turn, significantly diminished their overall Psychological Well-being. The continuous cycle of media dependency, academic struggles, and emotional strain created a challenging environment for college students, affecting both their mental health and their ability to navigate the already difficult circumstances of the pandemic.

Post-pandemic, the overall situation regarding media consumption among students showed noticeable improvements. According to survey data, the proportion of students engaging with media for more than 8 hours per day decreased to 27.29%, signaling a shift in behavior. This reduction suggests that students are no longer as reliant on media as they were during the peak of the pandemic, possibly due to the resumption of in-person activities, the reopening of schools, and the gradual return to normalcy in their daily routines. This decline in prolonged media exposure aligns with the shifting priorities and purposes behind media engagement.

The motivations for using media transitioned significantly during this period. Whereas before, students primarily consumed media for purposes related to political updates and current affairs — likely influenced by the heightened global uncertainty — their post-pandemic media use has become more centered around communication and leisure activities. A clear preference for entertainment-focused content has emerged, which could be attributed to the need for relaxation and mental relief after prolonged periods of stress and isolation. Additionally, results from the Psychological Well-being survey indicated an improvement in students' emotional states. Specifically, there were notable increases in positive emotional indicators, with higher scores for feelings such as "happy", "joyful", and "pleased". These findings suggest that the reduction in time spent on intense, news-driven media and the shift towards entertainment may have contributed to a more balanced emotional state, further emphasizing the significance of media content in shaping psychological well-being during the post-pandemic recovery phase.

Consequently, this study concludes that media usage is directly correlated with the Psychological Well-being of college students, with notable differences before and after the end of the COVID-19 pandemic. This underscores that changes in

the media ecosystem, social living environments, and the diversification of information channels and media choices can directly lead to shifts in media trust, internal emotions, and life perceptions among youth.

It is also crucial to note that even after the pandemic, 63.75% of college students still reported daily engagement with social platforms exceeding 6 hours. In light of this phenomenon, the study suggests that college students should avoid excessive media reliance to prevent disconnection from broader social life. Furthermore, it is essential to critically evaluate the authenticity of information encountered during media use, ensuring a focus on personal development through appropriate media engagement.

COMPETING INTERESTS

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REFERENCES

[1] Cha Mengchun. Research on the Correlation Between Media Trust and Subjective Well-Being During the Pandemic. Nanchang: Nanchang University, 2022.
[2] Dienern E, Eunkook S, Richard L. Subjective well-being: three decades of progress. Psychological Bulletin, 1999, 125(2): 276-302.
[3] Kaplan A, Maehr M. Achievement Goals and Student Well-Being. Contemporary educational psychology, 1999, 24(4): 330-358.
[4] Ames C, Archer J. Achievement goals in the classroom: Students’ learning strategies and motivation processes. Journal of Educational Psychology, 1988, 80(3): 260-267.
[5] Pintrich P. An Achievement Goal Theory Perspective on Issues in Motivation Terminology, Theory, and Research. Contemporary educational psychology, 2000, 25(1): 92-104.
[6] Fan, Zemin. “Be Cautious of the Impact of Social Media on Adolescent Mental Health”. China Education News, 2023-07-25(02).
[7] Lemyre A, Palmer-Cooper E, Messina J P. Wellbeing among university students during the COVID-19 pandemic: a systematic review of longitudinal studies. Public health, 2023, 222: 125-133.
[8] Luthra S, Agrawal S, Kumar A, et al. Psychological well-being of young adults during COVID-19 pandemic: Lesson learned and future research agenda. Heliyon, 2023, 9(5).
[9] Zarowsky Z, Rashid T. Resilience and wellbeing strategies for pandemic fatigue in times of Covid-19. International Journal of Applied Positive Psychology, 2023, 8(1): 1-36.
[10] Kushlev K, Drummond D M, Diener E. Subjective well-being and Health behaviors in 2.5 million Americans. Applied Psychology: Health and Well-Being, 2020, 12(1): 166-187.
[11] Cooke R, Bewick B M, Barkham M, et al. Measuring, monitoring and managing the psychological well-being of first year university students. British Journal of Guidance & Counselling, 2006, 34(4): 505-517.
[12] Liu X, Ping S, Gao W. Changes in undergraduate students’ psychological well-being as they experience university life. International journal of environmental research and public health, 2019, 16(16): 2864.

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THE FEASIBILITY CHALLENGES AND COUNTERMEASURES OF CLOUD TEACHING SUPPORT BY SILVER-AGE TEACHERS

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Abstract: With the deep integration of digital information technology into classrooms and teaching, the digital transformation of education is accelerating. In this context, silver-aged teachers engaging in flexible teaching and research assistance through online education and distance learning represents an innovative approach to addressing the shortage of teaching staff in western Chinese universities. This paper analyzes the feasibility of silver-aged teachers' involvement in "cloud" teaching assistance, covering aspects such as policy feasibility, human resources feasibility, directional feasibility, and practical feasibility. It also identifies the unique advantages of silver-aged teachers in this model. At the same time, it addresses the challenges faced in the process, such as platform operation difficulties, insufficient digital literacy, and lack of real-time feedback. Based on these challenges, specific solutions are proposed, focusing on optimizing online education platforms and enhancing teachers' capabilities.
Keywords: Silver-aged teachers; Teaching assistance; Online education

1 INTRODUCTION

For a long time, universities in western China have faced insufficient faculty numbers and an unreasonable structure of teaching staff, making it difficult to cultivate the professional talents urgently needed by local industries, enterprises, and sectors. The lack of talent support has also hindered the economic development of these regions. To address the shortage of faculty, the Chinese Ministry of Education issued the Implementation Plan for Silver-Aged Teachers' Assistance to Western Universities in February 2020, encouraging outstanding teachers under the age of 70 to support universities in the west. By August 2023, the Notice on the Implementation of Silver-Aged Teachers' Assistance to Western Universities for the 2023-2024 Academic Year expanded the policy to include a fourth batch of pilot universities, with the age limit for teachers relaxed to those under 75 years old in good health, while encouraging the use of flexible teaching methods such as online education and synchronous classrooms.

These policy changes highlight the government's proactive efforts to address the shortage of faculty in western Chinese universities. With the integration of information technology into education, online or hybrid education could become an important pathway to alleviate this issue. On April 23, 2024, the 6th Symposium on Intelligent Teaching by the Online Education Research Center of the Ministry of Education was held at the Great Hall of Tsinghua University, attracting many domestic and international guests, experts, scholars, and educators. The symposium acknowledged the achievements of China's online education over the past decade and praised platforms like "Xuetang Online" and "Rain Classroom" for their prominent roles in promoting resource sharing and the transformation of education [1].

Given the practical needs for strengthening faculty in the west and the rapid development of online education, this study aims to explore the value and feasibility of silver-aged teachers using online education platforms to conduct flexible teaching assistance. By leveraging these platforms, retired teachers can continue contributing to high-quality education resources, promoting educational equity, and providing a reference for the broader implementation of the national silver-aged teacher program.

2 FEASIBILITY OF SILVER-AGED TEACHERS' "CLOUD" TEACHING ASSISTANCE

2.1 Policy Feasibility

In July 2018, the Ministry of Education and the Ministry of Finance issued the Implementation Plan for the Silver-Aged Teaching Project, which aimed to recruit 10,000 retired teachers over two years (2018-2020) to support schools in rural areas. Following the implementation of the Silver-Aged Teaching Project in primary and secondary schools, the Ministry of Education launched the Implementation Plan for Silver-Aged Teachers' Assistance to Western Universities in February 2020. This plan aimed to select 120 to 140 teachers to support three pilot universities in western China, with financial guarantees for various forms of assistance, including distance education and synchronous classrooms.

By August 2021, after the successful implementation of the first batch of pilot universities, the plan was extended to include vocational colleges in 2022. By 2024, four batches of universities across various western provinces had received assistance under this plan.

While the Ministry of Education and the Ministry of Finance have continued to introduce relevant policies and increase financial investments, society's respect for silver-aged teachers has also risen. In September 2022, the team of retired teachers participating in the Silver-Aged Teachers' Assistance Program was honored as the "Most Beautiful Team" at the "Shining Names—2022 Most Beautiful Teachers" ceremony broadcast on CCTV. Furthermore, universities in both the eastern and western regions have recognized and honored their retired teachers for their contributions. These social honors and university-level recognitions highlight the educational commitment of these teachers, who, instead of

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enjoying a leisurely retirement, choose to continue contributing to higher education in western China, demonstrating that they are still full of vitality in their golden years.

2.2 Human Resources Feasibility

Teaching and academic research are inherently creative activities, and the two are complementary. Silver-aged teachers, through their long teaching careers, have accumulated not only rich teaching methods and techniques but also a profound understanding of educational principles and student psychology. With their solid expertise, continuous innovation capacity, and keen educational insight, they possess the necessary foundations for assisting universities in western China. Therefore, the Ministry of Education requires that teachers applying for this program hold senior professional titles and have extensive frontline teaching and research experience.

As the saying goes, “Give a man a fish, and you feed him for a day. Teach a man to fish, and you feed him for a lifetime.” Silver-aged teachers guide young teachers in recipient universities through mentorship and knowledge sharing. Whether serving as long-term, short-term, or online instructors, silver-aged teachers not only shoulder teaching responsibilities but also engage in academic research. Working together with recipient universities, they provide advanced teaching methods and research ideas through academic lectures, thereby elevating the professional abilities of the local teaching staff. Their multi-dimensional support contributes to the long-term development of higher education in the western region, with the wisdom and experience of silver-aged teachers being passed on to younger faculty members, enhancing their potential and jointly promoting educational progress. The contributions of silver-aged teachers are significant not only in traditional university teaching but also in fields like healthcare. Research has shown that the rich experience of senior teachers can help students grasp complex nursing techniques, thereby improving the quality of nursing talent development in western regions[2].

2.3 Directional Feasibility

In November 2014, the Ministry of Education, the Ministry of Finance, the National Development and Reform Commission, the Ministry of Industry and Information Technology, and the People’s Bank of China jointly issued the Implementation Plan for Expanding the Coverage of Quality Education Resources through Information Technology. This plan aimed to achieve full broadband coverage for schools at all levels by 2020, creating an information-based infrastructure to support lifelong learning and promote the digital transformation of education. Integrating information technology into education helps teachers reduce time-consuming tasks, such as attendance tracking and grading, while digital educational resources facilitate personalized and lifelong learning for students[3]. Multimedia technologies, including audio, video, images, and animations, have been widely applied in teaching and learning processes, effectively improving educational quality and students’ academic performance[4]. Teachers who acquire basic video editing skills and produce learning videos aligned with educational goals can significantly boost students' engagement and classroom participation[5].

While the COVID-19 pandemic has accelerated the digital transformation of education, it has also exposed the shortcomings of online education, highlighting the need to improve its quality. Online education requires robust internet infrastructure, and the quality of education varies significantly between countries and regions[6]. During the pandemic, faculty and students at Mizoram University in India relied primarily on WhatsApp and email for communication[7], with social media platforms becoming essential teaching tools. However, the limitations of online interaction have led to challenges in emotional exchange and reduced student engagement[8]. Furthermore, the quality gap between online and face-to-face education has sparked hundreds of legal cases in U.S. universities during the pandemic, with disputes focused on this quality discrepancy[9]. Therefore, improving the quality of online education is an urgent issue in the global digital transformation of education.

2.4 Practical Feasibility

Reliable internet infrastructure is the foundation for improving the quality of online education. According to the 54th Statistical Report on China’s Internet Development, China has nearly 1.1 billion internet users, with an internet penetration rate of 78.0%. Nationwide, 100% of primary and secondary schools have internet access, 99.9% of schools have an internet bandwidth of over 100 Mbps, and more than three-quarters of schools have wireless network coverage, with 99.5% equipped with multimedia classrooms. These statistics demonstrate the significant progress in China's internet infrastructure, providing strong support for the development of high-quality online education[10].

High-quality online education platforms are crucial to improving the overall quality of online education. Since the launch of the "Internet+" initiative in 2010, higher education online platforms have entered a new phase of development. Numerous platforms, each with unique characteristics, have emerged, catering to a wide range of educational needs from K-12 to higher education and from language learning to homework assistance. Examples include "Xuetang Online," "MOOCs by China," "Zhihuishu," "Hujiang NetSchool," "NetEase Cloud Classroom," "Tencent Classroom," "Yuanfudao," and "Zuoyebang." These platforms provide a variety of educational content and teaching methods to meet the diverse learning needs of users and promote the growth of online education in China. Notably, the National Higher Education Smart Education Platform, launched in 2022 under the leadership of the Ministry of Education, is China’s first national, comprehensive, and public platform aimed at higher education. China has been a global leader in the

development and application of Massive Open Online Courses (MOOCs) since their inception in 2013. Today, China ranks first in the world in both the scale of MOOCs development and usage.

Improving teachers' online teaching skills is essential to enhancing the quality of online education. Training in online teaching skills should include the use of online platforms, interaction techniques, and course design, among other competencies. The Chinese University of Hong Kong, for instance, introduced digital support strategies based on the Self-Determination Theory (SDT) through training workshops. These workshops guide teachers in providing diverse online learning resources, allowing students and faculty to select suitable tools and learning methods. Moreover, the workshops teach how to offer emotional support using emojis, audio, and video to meet students' needs for autonomy, competence, and relatedness in online classes [11]. In addition, teachers from the University of Santo Tomas in the Philippines developed a blended online teaching strategy for chemical engineering students during the COVID-19 pandemic. This strategy comprised five parts: self-exploration of learning materials, watching pre-recorded videos or using other means to learn content, applying knowledge through exercises, participating in interactive discussions via video conferencing, and finally, being assessed through online quizzes or exams [12]. Some researchers have also emphasized the necessity of face-to-face instruction as a complement to online education, highlighting the importance of integrating both modalities [13].

3 SILVER-AGED TEACHERS' ADVANTAGES IN CLOUD-BASED TEACHING ASSISTANCE

3.1 Digital Empowerment to Address Faculty Shortages in Western Universities

The construction of a robust faculty has always been a challenge for local universities in western China, and the Silver-Aged Teachers Assistance Program helps address this shortage to some extent. In the race to attract talent, western universities engaged in the "Double First-Class" initiative are constrained by salary structures and limited positions [14]. From the perspective of game theory, there are conflicts and imbalances between the interests of local governments, universities, and individual faculty members, making resource-sharing between western universities both necessary and difficult [15]. The success of multiple pilot programs has demonstrated that the flexible assistance of silver-aged teachers in teaching and research is a feasible solution to the shortage of faculty in the west, representing an innovative approach to faculty development in modern Chinese universities [16].

By using online and distance education methods, silver-aged teachers can break geographic boundaries and provide flexible teaching assistance from their homes. This flexibility allows them to record teaching videos, create MOOCs and micro-courses, and reduce repetitive teaching tasks. Through hybrid teaching methods that combine online and offline instruction, silver-aged teachers can provide students with high-quality educational resources and support personalized learning.

3.2 Passing on Teaching Experience and Academic Achievements

Silver-aged teachers play a crucial role in promoting scientific research and innovation in recipient universities. According to the Notice on the Implementation of Silver-Aged Teachers' Assistance to Western Universities for the 2022-2023 Academic Year, long-term silver-aged teachers are required to engage in no fewer than 64 hours of teaching annually and must participate in the guidance of at least one research project. Even after retirement, these experienced teachers, with their extensive academic expertise and deep professional knowledge, continue to lead research teams and facilitate the sharing of valuable research practices [17]. Silver-aged teachers often organize academic lectures, teach research methodologies, and share practical experiences, fostering a rich academic atmosphere at recipient universities. By mentoring young faculty members in western universities, silver-aged teachers help cultivate high-quality academic output. In time, these recipient universities can build strong academic teams and make significant contributions to long-term scientific research and talent development in the region.

3.3 Expanding the Social Value of Silver-Aged Teachers through Educational Resource Sharing

According to the 2022 Annual Report on the Development of the Aging Population in China, as of the end of 2022, people aged 60 and above accounted for 19.8% of the total population. With the increasing aging of the population, governments at all levels have adopted various measures to adjust retirement policies, enrich the post-retirement lives of elderly individuals, and encourage their participation in social welfare activities based on their health conditions and interests. Programs such as the Silver-Aged Teaching Project and the Silver-Aged Teachers Assistance Program are innovative ways to utilize retired human resources in response to the aging society. The Silver-Aged Teachers Action Plan promotes educational resource sharing to facilitate educational equity, thus advancing social justice [18]. By ensuring that educational opportunities are distributed fairly across society, these programs uphold the public's right to education and reflect the political, economic, educational, and humanistic values of China's educational policies [19].

4 CHALLENGES OF SILVER-AGED TEACHERS' CLOUD-BASED TEACHING ASSISTANCE

In theory, China's well-established online education infrastructure can fully support the flexible teaching and research assistance provided by silver-aged teachers. This approach is an effective way to promote the sharing of educational resources and address the imbalance in higher education faculty in different regions. However, in practice, the majority

of silver-aged teachers still engage in in-person teaching, indicating that the full potential of online teaching has yet to be realized. This suggests that there are unresolved challenges in flexible teaching assistance.

4.1 Diverse Teaching Platforms with Varied Operational Procedures

Currently, a wide variety of online teaching platforms are available in China, each with its own operational procedures. In the field of higher education, teaching platforms can be divided into two main categories. The first category consists of platforms for real-time online education and remote teaching, such as Tencent Meeting and Tencent Classroom, which support multi-person video conferencing, screen sharing, and online interaction, making them suitable for distance teaching and online seminars. Rain Classroom, integrated as a plugin into PowerPoint and WeChat, offers a convenient online teaching and learning experience. The second category includes platforms that offer online courses and resource libraries, such as Super Star Learning, which provides a vast collection of e-books, and Xuetang Online and China MOOCs, which offer high-quality courses across various disciplines.

Since each platform has its own distinct features and functionalities, even within the same software, the layout and settings may differ between the web and app versions. For silver-aged teachers, selecting, learning, and operating these platforms, as well as uploading, sharing, and managing teaching resources, can be challenging.

4.2 Transition to Online Teaching and Insufficient Digital Literacy

Online teaching differs greatly from in-person teaching in how course content is presented. Online courses require faster internet speeds, better equipment performance, and more technical support. Teachers must have basic digital literacy, meaning they must spend additional time and effort learning how to use online platforms and tools effectively. Although silver-aged teachers may be confident in their subject matter expertise after decades of teaching, the technical aspects of conducting online classes can be daunting. On one hand, online teaching and video production involve technical considerations that require teachers to have a high level of digital literacy. On the other hand, teachers must adapt their teaching strategies, redesign courses, and improve the timeliness of online teaching [20]. Some teachers, however, are hindered by long-established traditional teaching methods and struggle to effectively incorporate digital tools and reimagine their teaching designs and activities [21].

In fields like medical education, where remote teaching poses additional technical and professional challenges, effective nursing and emergency treatment processes depend heavily on precise digital operations during emergencies. For silver-aged teachers, remote teaching demands not only professional knowledge but also the ability to use digital tools proficiently. This multifaceted requirement significantly raises the bar for their digital literacy[22].

(3) Shift in Interaction Methods and Lack of Real-Time Feedback

The interaction methods in online teaching differ from those in face-to-face teaching, where teachers can engage students through body language and facial expressions. In online education, communication relies primarily on text and voice. Although some platforms support video-based remote teaching, the interactions are generally less natural and engaging than in-person exchanges. The virtual environment weakens learners' emotional experiences, reducing the sense of presence and atmosphere unique to face-to-face teaching and creating a sense of detachment from the educational process [23].

As a result, it is challenging for teachers to monitor students' real-time learning states, making it difficult to gauge students' understanding of the course content. Consequently, teachers may be unable to adjust their teaching pace accordingly, leading to reduced learning outcomes for students.

5 COUNTERMEASURES FOR SILVER-AGED TEACHERS' "CLOUD" TEACHING ASSISTANCE

Silver-aged teachers represent a unique resource in higher education. To resolve the challenges they face in online teaching assistance, and to fully harness this "academic dividend," collaboration is needed among government bodies, online education platforms, universities, and teachers.

5.1 Simplifying Platform Operations and Creating Video Tutorials

To address the complexity of existing online education platforms, platform developers should conduct in-depth research on the practical needs of both teachers and students. By simplifying operational procedures and optimizing user interfaces, platforms can enhance the convenience and efficiency of online teaching, thereby improving both teaching management and the learning experience. This would ensure the smooth conduct of online education.

To assist silver-aged teachers in adapting to online teaching platforms, platform developers can draw from successful experiences in medical education. Wu Panxuan et al. (2020) emphasized that detailed operational manuals and video tutorials significantly enhance teaching effectiveness in medical education, particularly for silver-aged teachers. Such resources could be adapted to train silver-aged teachers in mastering the necessary online teaching platforms and tools, ensuring their ability to effectively conduct remote teaching, especially in fields like medical education where proficiency with digital tools is essential [24].

Platforms should provide detailed instructional manuals and video tutorials that guide teachers through the entire process, from registration, logging in, course creation, and resource uploading to the use of interactive tools and data analysis. These tutorials should include clear, step-by-step explanations accompanied by diagrams to ensure that

teachers can follow along easily. Video tutorials should cover all aspects of platform functionality and be updated regularly to reflect any platform or tool upgrades, ensuring that teachers remain proficient in the latest online teaching techniques.

5.2 Organizing Specialized Training to Enhance Teachers' Digital Literacy

Specialized training should be provided, including detailed demonstrations and hands-on practice, to help silver-aged teachers master the functions of online education platforms. Training sessions should begin with basic platform operations, such as uploading and editing course content, assigning and grading homework, conducting online assessments, and managing grades. Additionally, the training should focus on interactive tools, such as online chat functions, polls, quizzes, and real-time Q&A sessions, to maintain strong teacher-student engagement in a virtual environment.

Furthermore, online course design differs from traditional classroom teaching and requires careful planning across three phases: before class, during class, and after class[25]. Before class, teachers should establish communication channels with students, share learning materials, and encourage students to prepare in advance. During class, sufficient time should be allocated for interactive exercises and discussions, with students taking an active role. After class, teachers should assess student performance through homework and quizzes uploaded to the platform.

5.3 Developing Intelligent Technology to Identify Students' Emotional Needs in Online Education

Online education platforms should actively develop new features to collect data that can be used to evaluate students' learning outcomes. For example, platforms could track students' learning paths by recording video-watching times, participation in discussions, and homework completion rates and quality, creating personalized learning profiles for each student. With artificial intelligence (AI) technologies such as facial recognition and emotion analysis, teachers can monitor students' emotional states during learning and identify stress points or emotional barriers [26]. Such insights can inform adjustments in teaching strategies and help improve the learning experience. Furthermore, continuous feedback mechanisms and learning communities can provide students with ongoing feedback from teachers, peers, and the system, offering valuable data on students' learning effectiveness.

6 CONCLUSION

The "cloud" teaching assistance by silver-aged teachers is a feasible and innovative approach to addressing the shortage of teaching staff in western Chinese universities. However, current challenges such as insufficient practical experience in remote teaching, diverse and complex teaching platforms, and the lack of real-time interaction need to be addressed. Online education platforms must simplify operational procedures, develop new features to support decision-making in educational contexts, and enhance teachers' digital literacy to ensure the smooth implementation of online teaching. Through the collaboration of online platforms, universities, and teachers, more high-quality educational resources can be delivered to western regions, promoting educational equity.

COMPETING INTERESTS

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REFERENCES

[1] Sixth Ministry of Education Online Education Research Center Symposium on Smart Teaching and the 10th Anniversary Conference Successfully Held. Mod Educ Technol, 2024, 34(05): 1.
[2] Cui X, Yang M. The impact of nursing interventions based on the Rosenthal effect on the stress responses and emotional states of children with scoliosis. J Youjiang Med Univ Natl, 2019, (06): 713-715.
[3] Haleem A, Javaid M, Qadri MA, et al. Understanding the role of digital technologies in education: A review. Sustain Oper Comput, 2022, 3: 275-285.
[4] Abdulrahaman MD, Faruk N, Oloyede AA, et al. Multimedia tools in the teaching and learning processes: A systematic review. Heliyon, 2020, 6(11). DOI: https://doi.org/10.1016/j.heliyon.2020.e05312.
[5] Priandika AT, Permata P, Gunawan RD, et al. Video editing training to improve the quality of teaching and learning at SMK Palapa Bandarlampung. J Eng Inf Technol Community Serv, 2022, 1(2): 26-30.
[6] Altbach PG, Gao Y, Liu J, et al. The future direction of higher education internationalization in the post-pandemic era. J High Educ Manag, 2022, 16(01): 1-14.

[7] Mishra L, Gupta T, Shree A. Online teaching-learning in higher education during the lockdown period of the COVID-19 pandemic. Int J Educ Res Open, 2020, 1: 100012.
[8] Shadjalilovna SM, Malikovna KRN, Mirsharapovna SZ, et al. Determination of the needs of students by psychological and pedagogical teaching tools using remote technologies. Tex J Multidiscip Stud, 2022, 14: 5-8.
[9] Qin H, Zhang J. Are online and face-to-face teaching of equal quality? An analysis based on 107 cases of online teaching in American universities during the COVID-19 pandemic. Comp Educ Rev, 2023, 45(06): 3-10.
[10] Yang Z. Building a national smart education platform to promote high-quality development of higher education. China Educ Inform, 2022, 28(04): 3.
[11] Chiu TK. Applying the self-determination theory (SDT) to explain student engagement in online learning during the COVID-19 pandemic. J Res Technol Educ, 2022, 54(sup1): S14-S30. DOI: https://doi.org/10.1080/15391523.2021.1891998.
[12] Lapitan LD Jr, Tiangco CE, Sumalinog DAG, et al. An effective blended online teaching and learning strategy during the COVID-19 pandemic. Educ Chem Eng, 2021, 35: 116-131.
[13] Erlangga DT. Student problems in online learning: Solutions to keep education going on. J Engl Lang Teach Learn, 2022, 3(1): 21-26.
[14] Zeng L, Chen Q. Faculty development in western regional universities under the "Double First-Class" initiative: A case study of Chongqing Jiaotong University. J Chongqing Jiaotong Univ Soc Sci Ed, 2019, 19(05): 114-118.
[15] Chen C, Zhan L, Hu Y. Analysis of the dilemma and strategies for solving educational resource sharing in western China from a game theory perspective. J Tibet Univ Soc Sci Ed, 2022, 37(02): 229-235.
[16] Zhang L, Cheng Y, Ye C, et al. Optimizing faculty development with silver-aged teachers: Mission, key tasks, and development strategies. China High Educ Res, 2023, (02): 24-30.
[17] Sang G, Wen L. Silver-aged teachers helping to build high-quality teaching teams in rural areas: Value, challenges, and solutions. Mod Dist Educ, 2024, (01): 89-96.
[18] Bai X, Qiu Y, Zhang L. The internal logic, value orientation, and promotion strategies for building high-quality silver-aged teacher teams. China High Educ, 2023, (18): 20-23.
[19] Jiang F. "Silver-Aged Teachers Action Plan": An alternative path for teacher supply in the context of population aging. J Teach Educ, 2023, 10(06): 123-30.
[20] Wang D, Bao J, Guo Y. Realistic challenges and coping strategies of online teaching in adult higher education under the "Internet+" perspective. Contin Educ Res, 2024, (06): 89-94.
[21] Zhang W. Challenges and countermeasures for online teaching in higher education under the digitalization context. J Changchun Norm Univ, 2023, 42(10): 143-146.
[22] Liu Y, Zhao C, Zhou Y. The impact of chest pain center establishment and optimization of nursing processes on the treatment of acute ST-segment elevation myocardial infarction. J Youjiang Med Univ Natl, 2019, (04): 465-467.
[23] Zhang Q, Yuan Y. The formation, evolution, and intervention strategies for teacher-student alienation in online education. J Educ Technol Res, 2022, 43(09): 37-44.
[24] Wu P, Lan Z, Huang W, et al. Application of a blended teaching model based on MOOCs in undergraduate medical interns. J Youjiang Med Univ Natl, 2020, (01): 119-22.
[25] Jiang L. Research and practice on the reform of online teaching supported by information technology. J Jilin Agric Sci Technol Coll, 2023, 32(01): 115-119.
[26] Zhai X, Xu J, Wang Y. Research on learning emotion computing in online education: A multisource data fusion perspective. J East China Norm Univ Educ Sci, 2022, 40(09): 32-44.

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THEORETICAL AND PRACTICAL EXPLORATION OF THE CLASSIFICATION-BASED CULTIVATION MODEL FOR TOURISM MARKETING TALENTS IN UNIVERSITIES

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Abstract: With the rapid development of the tourism industry, the demand for highly skilled tourism marketing talents is continually increasing, particularly in ethnic regions and areas with distinct cultural characteristics in China. How universities can effectively cultivate professionals to meet market needs has become critical. This paper, based on the current supply and demand of tourism marketing talents and considering the characteristics of students in ethnic universities, proposes an innovative classification-based talent cultivation model. This model categorizes students into three types: technical, managerial, and academic, according to their comprehensive qualities, interests, and career plans. The aim is to enhance their professional competence, practical skills, and research abilities. Furthermore, this paper discusses the approaches of this classification-based model, including admission assessments, curriculum design, mentorship, the integration of theory and practice, diversified evaluation systems, and flexible cultivation approaches. The study concludes that the classification-based model effectively meets the diverse needs of the tourism market and provides new ideas for educational reform in universities.
Keywords: Tourism marketing talents; Classification-based cultivation model; Ethnic universities; Technical talents; managerial talents; Academic talents; Approach

1 INTRODUCTION

With the widespread development of higher education and the ongoing progress of the economy, higher education has become a crucial component of national talent cultivation. However, due to disparities in regional economic development, resource allocation, and educational resources, the development of higher education in China has shown significant imbalances, and the diversity of the student population has become increasingly evident [1]. To meet the personalized educational needs of different students, higher education institutions must actively explore and integrate classification-based talent cultivation models, maximizing students' potential.

As key institutions for cultivating skilled professionals, universities need to recognize that traditional education models often fail to address the diverse needs of students. Against this backdrop, exploring talent cultivation models that can adapt to diverse needs has become a critical task in university teaching practices [2]. Through a classification-based model, universities can implement personalized educational plans tailored to specific categories of students, providing more targeted guidance and support [3]. Compared to traditional "one-size-fits-all" models, classification-based cultivation better meets the individual needs of students, thus improving their autonomy and enthusiasm for learning and optimizing the effectiveness of educational practices. Therefore, this paper aims to provide theoretical references and practical insights into applying a classification-based model for cultivating tourism marketing talents in universities.

2 REVIEW OF THEORIES AND PRACTICES IN THE CLASSIFICATION-BASED CULTIVATION OF TOURISM MARKETING TALENTS

2.1 Literature Review

A talent cultivation model refers to the systematic educational practice employed by higher education institutions, under the guidance of specific educational philosophies, to meet societal and economic development needs by scientifically organizing teaching content, processes, and methods. Its purpose is to cultivate students' comprehensive qualities and professional abilities. The model encompasses educational objectives, content, methods, approaches, and evaluation systems, reflecting educators' comprehensive planning and strategic implementation of talent cultivation goals, pathways, and methodologies. In academic research, domestic scholars have dedicated themselves to exploring the reform and development of application-oriented talent cultivation models suitable for local contexts. For example, Zhang Shixian and Li Yongping (2010) provided a macro perspective, emphasizing practical research on understanding and constructing application-oriented talent cultivation models within the context of mass higher education [4]. Yang Mengbei and Wang Shaoyuan (2020) analyzed the outcomes of talent cultivation model reforms from the perspective of local application-oriented universities. They noted that cultivating application-oriented talents has become a widespread consensus among transforming universities. Key factors to achieving this goal include curriculum design, the introduction of innovative teaching methods, the construction of dual-qualification teaching teams, and the

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improvement of management and evaluation systems [5]. Huang Mingyue (2020), after reviewing the literature on application-oriented talent cultivation models in local undergraduate institutions over the past decade, pointed out that while China has placed great emphasis on cultivating application-oriented talents, local universities face issues of "convergence" and "homogeneity" in implementation. She noted that the cultivation of application-oriented talents in domestic local universities is still in its early stages, with insufficient theoretical research, unclear positioning, and vague goals, preventing the formation of a systematic educational theory. Furthermore, she highlighted limitations in research methodologies and the fact that most research subjects have focused on the perspectives of management and universities, with little attention given to students, enterprises, and societal participation [6].

Upon examining the existing research on talent cultivation in universities, we find that these studies not only cover reports on the development of higher education law and reflections on talent cultivation goals but also include critical evaluations of talent cultivation, intrinsic development, and classification-based assessment, as well as talent cultivation strategies from a tiered classification perspective. For example, Shi Qiuheng (2020), in the 20-year development report on the "Higher Education Law of the People's Republic of China," emphasized the crucial role of this law in coordinating the development of higher education nationwide. However, he also pointed out shortcomings in its operational effectiveness [7], highlighting the need for further systemic structural adjustments in higher education in the future. Yan Jiahong (2003) conducted a historical analysis and reflection on the classification of talent cultivation goals in higher education, stressing the importance of establishing scientifically sound talent cultivation goals to improve educational quality [8]. Yuan Yimin (2023) offered critical reflections on current buzzwords in the field of higher education, proposing a reevaluation of the quality connotations behind these terms and the construction of a five-dimensional quality system to effectively implement the fundamental task of moral education, thus contributing to the high-quality development of higher education [9]. Lu Yi, Shi Jinghuan, and He Xuebing (2018) proposed a classification system and characteristics for China′s elite innovative talent cultivation models. Their theoretical matrix encompasses various elite innovative talent cultivation models in China′s higher education system, showcasing the diversity and heterogeneity of China′s higher education [10].

While studies specifically addressing the cultivation of tourism marketing talents are relatively scarce, they reflect initial explorations by educators and researchers to improve educational quality and adapt to market needs. These studies focus not only on curriculum reform and teaching methods but also on innovations in classification-based talent cultivation models, as well as the challenges and opportunities posed by the development of modern tourism marketing. For instance, Tian Qiaoli (2015) emphasized the importance of cultivating application-oriented tourism talents and, using the "Tourism Marketing" course as an example, proposed reform methods such as modular teaching, curriculum integration, and interdisciplinary approaches [11]. This demonstrates the increasing focus on practical, application-oriented teaching methods in tourism education and the need for interdisciplinary learning environments. Huang Xiubo (2022) focused on the challenges and solutions faced by undergraduate tourism management education in application-oriented universities, analyzing issues such as discipline positioning, professional identity, teaching quality, and employment prospects while proposing possible solutions [12]. This research highlights the challenges faced by tourism education in adapting to societal and market demands and the urgent need for innovative educational models.

2.2 Practices of Talent Cultivation Models in Domestic and Foreign Universities

Globally, especially in European countries, the education sector has conducted extensive practical explorations into cultivating application-oriented talents, including tourism marketing professionals, and has developed several widely applied and referenced cultivation models. These models share common characteristics, such as emphasizing the integration of theory and practice and focusing on vocational abilities as the core objective of talent cultivation. Four typical models are detailed in Table 1.

Table 1 Four Typical Talent Cultivation Models Abroad

Model	Description
CBE Talent Cultivation Model	This model is widely applied in developed countries such as Canada, the United States, the United Kingdom, and Australia. The Competency-Based Education (CBE) model focuses on competency development, emphasizing the design of teaching methods and systems centered around vocational skills to meet the specific needs of industries.
Germany’s Dual System	Germany’s dual education system integrates enterprise-based practical training with school-based theoretical education, aiming to cultivate highly skilled technical professionals. This model combines students’ hands-on work experience in companies with theoretical learning in schools, achieving seamless integration between education and vocational practice, and fostering deep collaboration between schools and enterprises [13].
Japan’s Industry-Management-Academia Collaboration	Japan’s model combines the resources and strengths of enterprises, management, and educational institutions to jointly cultivate application-oriented talents. Through close cooperation among industry, management, and academia, this practical education model provides students with extensive internships, practical opportunities, and curricula closely aligned with industry needs.
UK’s “Sandwich” Model	The "Sandwich" model in the United Kingdom adopts a "theory-practice-theory" cyclical teaching approach. Students study theoretical knowledge at school while simultaneously interning at companies, before returning to school to further deepen their theoretical studies.

This model effectively enhances students' vocational competencies and comprehensive applied skills.

2.3 Evaluation of Research and Practices in Talent Cultivation Models in Domestic and Foreign Universities

The research and practice of talent cultivation models in universities reveal the complexity and diversity of educational reforms, while also reflecting the growing global demand for high-quality education. From the research progress, domestic and international scholars have conducted in-depth analyses and discussions, proposing diversified educational models and strategies aimed at better adapting to the needs of economic and social development and promoting the comprehensive improvement of students' qualities. Specifically, research has emphasized the systematic design and innovation of educational goals, content, methods, and evaluation systems, with a focus on application-oriented talent cultivation models, reflecting educators' deep consideration of talent cultivation goals, pathways, and methods.

At the practical level, experiences from multiple countries have shown that the integration of theory and practice, the core status of vocational abilities, and the deep cooperation between universities and enterprises are key factors in improving the quality and effectiveness of education. For example, models like the CBE (Competency-Based Education), Germany′s "dual system" model, Japan′s industry-management-academia collaboration, and the UK′s "Sandwich" model have been successfully implemented in their respective countries and regions, effectively enhancing students' vocational skills and comprehensive competencies. These successful practices offer valuable insights and lessons for China′s higher education, particularly in strengthening the integration of theory and practice and advancing university-enterprise cooperation.

However, due to differences in national conditions, systems, student populations, and faculty resources, foreign talent cultivation models may not entirely suit the actual situation of Chinese universities. In particular, regarding the classification-based cultivation model for tourism marketing talents, there is still a lack of systematic and in-depth research in China′s academic community. Therefore, while learning from foreign experiences, Chinese universities need to innovate talent cultivation models and educational strategies that are tailored to the country′s specific circumstances.

3 THE CHANGING NEEDS OF TOURISM MARKETING TALENT CULTIVATION AND THE DISTINCT CHARACTERISTICS OF THE CLASSIFICATION-BASED MODEL

Against the backdrop of rapidly developing network technology, the expanding coverage of the internet, and the widespread application of big data, the "online" marketing model in the tourism market has risen swiftly [14]. The continuous emergence of social e-commerce and cross-border e-commerce has posed both challenges and opportunities for traditional tourism marketing models. The changes in the current needs for tourism marketing talent cultivation can be analyzed from two perspectives.

3.1 Changes in the Needs of Tourism Marketing Talent Cultivation

3.1.1 General development trends in the tourism market

With the aid of online data, choosing tourist destinations, planning travel routes, and arranging travel affairs have become routine behaviors for modern consumers. The widespread application of the Internet has not only changed the business model of the tourism market but has also restructured resource allocation patterns. Increasingly, tourism marketing strategies rely on the Internet, and the demand for online marketing and customer service personnel has significantly risen [15]. Driven by the wave of innovation and entrepreneurship, new technological reforms and the construction of business models have stimulated an urgent demand for innovative marketing talents. Faced with an overwhelming amount of information, the tourism market requires marketing professionals who are capable of processing data and possess digital literacy [16].

3.1.2 Changes in tourism enterprise operations and management

According to statistical data, digital marketing talents in the tourism market aged between 21 and 30 account for more than 70%, with those born in the 1990s and 2000s becoming the driving force behind digital marketing in the tourism sector [17]. As the usage rate of mobile communication continues to rise, consumer behaviors on mobile platforms are increasing, especially among the post-90s and post-95s generations. These younger individuals are quicker to accept new ideas and acquire new knowledge and skills, becoming the backbone of Internet applications. In this context, many tourism enterprises have started to propose and experiment with new marketing models, such as content marketing, community marketing, and scarcity marketing. Compared to traditional talent cultivation models, tourism enterprises no longer limit their hiring standards to practical work experience but place greater emphasis on applicants' innovation capabilities, advanced marketing concepts, and market responsiveness [18]. In general, tourism enterprises now require employees who possess innovative thinking, market sensitivity, and a strong awareness of marketing innovation.

3.2 Distinct Characteristics of the Classification-Based Talent Cultivation Model

The classification-based talent cultivation model is an innovative educational model designed to cater to the diverse backgrounds of university students. Through this model, students can select personalized educational programs based

on their learning abilities and educational backgrounds, allowing them to achieve better learning outcomes.
The application of this model is characterized by three distinct features:

3.2.1 Flexibility

The classification-based talent cultivation model can flexibly adjust educational practices according to students' learning abilities and backgrounds, ensuring that they receive the most suitable educational content and methods. As a result, this model can be widely applied across different student groups, providing each student with direct and effective educational support [5].

3.2.2 Personalization

In this model, students can fully communicate with teachers and choose the level and category that best aligns with their individual needs, receiving personalized educational services. This stimulates students' enthusiasm for learning and enhances educational outcomes [6].

3.2.3 Efficiency

Educational programs and methods are designed according to students' actual learning abilities and educational backgrounds, enabling them to master professional knowledge and skills more quickly, thereby improving the efficiency and quality of learning and practice. This also enhances students′ sense of accomplishment while helping them tap into their potential to achieve maximum results [7].

4 EXPLORATION OF THE APPROACHES FOR THE CLASSIFICATION-BASED CULTIVATION MODEL OF TOURISM MARKETING TALENTS IN CHINESE UNIVERSITIES

With the rapid development of the tourism industry, the demand for tourism marketing talents has become increasingly diversified. For different types of universities, the cultivation models for tourism marketing talents need to be scientifically planned based on the characteristics of students, regional cultural backgrounds, and market demands.

4.1 Admission Assessment and Layered Management

4.1.1 Admission assessment

Considering the diversity of university students, particularly in ethnic universities where there are significant differences in students' academic backgrounds, language proficiency, and career aspirations, universities need to design a comprehensive admission assessment system when implementing the classification-based cultivation model. Through entrance exams, interviews, and questionnaires, students′ academic foundations, logical thinking abilities, cultural understanding, and career development goals should be assessed. The evaluation results will serve as an important basis for student classification and provide scientific support for subsequent cultivation pathways.

4.1.2 Layered management

Based on the results of the admission assessment, students can be divided into three categories: technical, managerial, and academic. Technical students mainly possess practical operational abilities and are suited for positions such as market research and product design. Managerial students excel in organization and leadership, making them suitable for managerial roles in tourism enterprises or management departments. Academic students, showing strong research capabilities, may pursue academic research or policy analysis in the future. Universities should implement differentiated management in curriculum design, teaching methods, and resource allocation according to the different characteristics of each student group, ensuring that every student follows a suitable cultivation pathway.

4.2 Differentiated Curriculum Design

4.2.1 Technical students

The curriculum for technical students should focus on practical training and skill development. Courses such as Market Research Practicum and Digital Marketing Technology Applications can help students gain hands-on experience, enabling them to take on roles such as market researchers or product development specialists in tourism enterprises upon graduation. Practical courses should be combined with theoretical studies to ensure that students possess core skills in areas like digital marketing and tourism product development.

Table 2 Differentiated Curriculum Design for Technical Students

Skill Category	Curriculum	Assessment Method
Market Analysis Skills	*Market Research and Forecasting*	Design a market research questionnaire
	Basics of Economics	
	Market Research Practicum	Participate in a market research competition
	Market Research EPR Simulation Software	
Product Promotion Skills	*Customer Relations*	University-industry joint practice
	Sales and Negotiation	Write a promotion plan
Marketing Strategy Skills	*Marketing Planning*	Develop a marketing plan
	Brand Management	Participate in a marketing planning competition

	Advertising Practices	University-industry cooperative competition
	Enterprise Management	Enterprise management simulation
Marketing Management Skills	*Information Processing*	Innovation and Entrepreneurship Competition
	Financial Management	University-industry joint practice
	Website Operation	On-the-job internship
Online Marketing Skills	*Digital Marketing Technology Applications*	Internship report
	Short Video Production	Presentation competition

4.2.2 Managerial students

The career paths for managerial students include middle and senior management positions in tourism enterprises, such as marketing managers or regional supervisors. To develop their management capabilities, the curriculum should include theoretical courses such as Marketing Management, Strategic Management, and Organizational Behavior. Additionally, combining enterprise management training with case studies will help students develop team management and decision-making skills. For tourism enterprises in ethnic regions, cross-cultural management courses should be added to enhance students' management abilities in multicultural settings.

4.2.3 Academic students

For academic students, the focus is on theoretical learning and improving research capabilities. Courses should cover topics like Advanced Marketing Theory, Tourism Economics, and Ethnic Cultural Studies, providing a strong theoretical foundation for students who may pursue tourism culture research or policy analysis in the future. Academic students should also be given opportunities to participate in research projects to help them enhance their research abilities and achieve academic breakthroughs, preparing them for careers in academic or policy research.

4.3 Personalized Guidance and the Mentorship System

4.3.1 Mentorship for technical students

Mentors for technical students should focus on guiding them in practical projects and activities, such as market research or tourism product design competitions. Based on students' abilities and interests, mentors can help them plan their career paths and recommend relevant internship opportunities, ensuring that students continuously improve their skills through practice and are prepared to enter the workforce upon graduation.

4.3.2 Mentorship for managerial students

Mentors for managerial students should have rich experience in enterprise management and be able to guide students through management internships and team projects. Through the mentorship system, students can not only enhance their management skills but also leverage their mentor's industry connections to participate in real business projects, gaining valuable management experience.

4.3.3 Mentorship for academic students

Mentors for academic students should have a strong academic background and be able to design scientific research plans for students and offer opportunities to participate in research projects. Through guidance on thesis writing and participation in academic seminars, mentors help students gradually accumulate academic achievements, laying the foundation for future careers in academic research or policy analysis.

4.4 Diversified Evaluation System

4.4.1 Evaluation system for technical students

The evaluation of technical students should focus on assessing their practical abilities, including their performance in real projects, mastery of skills, and feedback from internships. Through multidimensional practical assessments, the evaluation system ensures that students are equipped with the skills needed to enter the workforce directly after graduation.

4.4.2 Evaluation system for managerial students

The evaluation of managerial students should focus on their leadership abilities, teamwork, and innovative thinking, particularly in management training scenarios. By assessing the completion of actual projects, the evaluation system comprehensively examines students' management potential.

4.4.3 Evaluation System for Academic Students

The evaluation of academic students should be based primarily on their academic achievements, with a focus on the quality of their theses, progress in research projects, and participation in academic activities. Through academic reviews and publication records, the evaluation system ensures that students possess the ability to pursue further studies or engage in academic work.

5 CONCLUSION

This paper examines the construction and implementation of a classification-based cultivation model for tourism marketing talents, focusing on the characteristics of students in ethnic universities. The proposed model categorizes

students into three types—technical, managerial, and academic—and explores the specific approaches for each category. The study shows that the classification-based cultivation model is better suited to meet the diverse talent needs of the current tourism market, providing new ideas for improving the quality of tourism marketing talent cultivation in universities.

Through the analysis of the classification-based model, we draw the following conclusions and suggestions: Firstly, universities should strengthen the admission assessment mechanisms to ensure that students are reasonably classified according to their interests, abilities, and career plans. Secondly, the emphasis on practical teaching should be increased by enhancing cooperation between universities and enterprises, as well as by establishing internship and practical training programs to improve the practical skills of technical and managerial talents. Additionally, universities should focus on cultivating research capabilities and expanding academic horizons for academic students, encouraging them to participate in research projects and academic exchanges. Different cultivation goals should be supported with personalized guidance and curriculum design to ensure that students can smoothly adapt to their future career paths after graduation.

Looking forward to the future, with the continued growth of the global tourism industry and the digital transformation, the demand for tourism marketing talents will become more diverse and specialized. Universities should further optimize the classification-based cultivation model, keeping pace with industry development trends, particularly by strengthening the cultivation of talents in digital tourism marketing and smart tourism. Ethnic universities, in particular, can leverage their regional cultural advantages to cultivate tourism marketing talents with cultural sensitivity and global perspectives, thereby enhancing their competitiveness in the global tourism market. The continuous refinement and promotion of the classification-based cultivation model will provide valuable insights and references for the innovation and high-quality development of global tourism education in the future.

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REFERENCES

[1] Liu L H, Liu Z A, Zhang S J. Issues and Strategies in Talent Cultivation for Rural Tourism in Vocational Education. Education and Vocation, 2021(23): 70-74.
[2] Xia L, Li Q, Huang A, et al. Research on Personalized Talent Cultivation Model Based on "Layered and Graded" Curriculum System. Research in Higher Engineering Education, 2021(04): 118-124.
[3] Liu S, Shen H. Constructing a Layered System for Higher Engineering Talent Cultivation in the Context of Global High-Tech Competition. Research in Higher Engineering Education, 2023(01): 73-79.
[4] Zhang S X, Li Y P. A Review of the Reform in Undergraduate Application-Oriented Talent Cultivation Model. Higher Education Forum, 2010(10): 5-7.
[5] Yang M B, Wang S Y. A Review of the Issues in Reforming the Talent Cultivation Model in Local Application-Oriented Universities. Higher Agricultural Education, 2020(02): 17-23.
[6] Huang M Y. A Review of the Research on the Training mode of Applied Talents in Local Universities in China in the Past Decade. Journal of Hubei Second Normal University, 2020, 37(1): 92-96.
[7] Shi Q H. A 20-Year Development Report on the Higher Education Law of the People's Republic of China: From the Perspective of Improving the Quality and Efficiency of Classified Talent Cultivation in Higher Education. Journal of the National Academy of Education Administration, 2020, (02): 15-25.
[8] Yan J H. Classification and Reflections on Talent Cultivation Goals in Higher Education. Journal of Northwest University (Philosophy and Social Sciences Edition), 2003, 33(01): 140-144.
[9] Yuan Y M. Cool Reflections on Three Hot Topics: Talent Cultivation, Connotation Development, and Classified Evaluation. Higher Education Development and Evaluation, 2023, 39(05): 22-31.
[10] Lu Y, Shi J H, He X B. Between Isolation and Openness: A Study of the Classification System and Characteristics of China's Elite Innovation Talent Cultivation Models. Educational Research, 2018(03): 46-54.
[11] Tian Q L. Curriculum Reform in Tourism Programs Based on the Cultivation of Application-Oriented Tourism Talents: Taking "Tourism Marketing" as an Example. Journal of Liuzhou Teachers College, 2015, 30(05): 113-116.
[12] Huang X B. Challenges and Solutions for Undergraduate Tourism Management Education in Application-Oriented Universities. Higher Education Journal, 2025(25): 85-92.
[13] Ji J, Li Y Z. Characteristics and Implications of the "Dual System University" Application-Oriented Talent Cultivation Model in Germany. Vocational Education Forum, 2017(22): 75-80.

[14] Chen L. On the Connotation, Research Paradigms, and Development Stages of Intern Teachers' Socialization. Journal of Teacher Education Research, 2021, 33(01): 28-33.
[15] Nurjiawa · Chektai. Research on Talent Cultivation Strategies for Tourism Management in Higher Education: A Review of "The Theory, Methods, and Practices of All-Area Tourism". Science and Technology Management Research, 2023, 43(07): 269.
[16] Guo Q Z. Research on the Academic Capacity Building of University Librarians: A Case Study of Zhejiang University's Layered Talent Cultivation. Journal of Academic Libraries, 2022, 40(04): 41-47.
[17] Wu A Z, Jin Y H. Research on the Cultivation of Digital Competency in Marketing Professionals in Vocational Colleges. Vocational and Technical Education, 2021, 42(14): 27-31.
[18] Luo S S. Fundamental Position and Value Logic of Teachers' Role Transformation in the Era of Artificial Intelligence. Journal of Teacher Education Research, 2021, 33(04): 32-37.