Prestieesci Research Review

ANALYSING TRENDS IN PIANO EDUCATION AND MUSIC LITERACY IN CHINA FROM THE 20TH TO THE 21ST CENTURY, FOCUSSING ON GUANG XI PROVINCE AS A CASE STUDY

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ABSTRACT

Across all levels of education, gamification has emerged as an essential component of traditional classroom instruction and online learning environments in recent years. More and more educational institutions are embracing and using gamification approaches as a result of the positive effects they have on student motivation and the efficiency of the learning process. This article introduces a game-based teaching-learning environment to help with the incorporation of digital games into the learning-teaching process. This setting is ideal for learning accounting skills online because of its focus on hands-on experience. Because gamification is becoming more popular at the university level, the article's game-based virtual classroom has been effectively used for a number of years, and the amount of students actively engaging in class has been rising consistently.

KEYWORDS: Management of virtual classrooms, learning management systems, electronic learning, gamified instruction and learning, learning environments, and gamified classrooms.

INTRODUCTION

After being accepted, students may use the virtual learning environment (VLE) to register in classes, see course materials, complete assignments, and communicate with teachers and peers. Virtual learning environments are used by several stakeholders, including administrators, instructors, and students. Important for online schools are virtual learning environments (VLEs). The VLE incorporates university administration features. Virtual learning environments (VLEs) manage student registration, grades, and

administrative reports, among other things. It offers the ability to enrol in virtual learning environments. All of the course materials, including lectures, may be accessed via the VLE. Automatically, the lecturer gets the exam results. Features such as multimedia teleconferencing, email, and chat are all part of the VLE communications hub. Also included are the tools and guidelines that teachers may use to create their own virtual learning environment (VLE) materials. When the course is open to students, it also details the professor's daily responsibilities. Interactive content that makes the most of new technology is in high demand. Serious games, often known as educational games, are video games that include interactive applications to teach and entertain players in many fields including health, marketing, education, etc. (Steinmayr et al., 2018). The study investigates the effects of effective serious games on education. Additionally, it emphasises the value of tutoring in facilitating learning and the possible talents and skills that may be gained via these games. People need to be future-oriented and in sync with society's goals at this period of social, economic, and financial crises. For these purposes and the successful transmission of both content and values, serious games are suitable. The ability to learn is fundamental to human flourishing, new information acquisition, and cultural preserves. It generates wealth. With so many challenges looming on the horizon for mankind, education is more important than ever in the pursuit of freedom, social justice, and peace. One of the most effective means of reducing inequality, injustice, marginalisation, ignorance, and conflict while simultaneously fostering a more profound and harmonious form of human development is via education. Learning begins in infancy and continues throughout a person's life. Throughout one's lifespan. Everything a kid learns, whether in a classroom, library, playground, or workshop, counts towards their education. Children learn about the world, about themselves, and about basic facts via their educational experiences. Knowledge, skills, and attitudes are enhanced via education, leading to greater efficiency. Graduating from elementary school to upper secondary school to college creates more opportunities for students to become doctors, engineers, scientists, nurses, and teachers. A flourishing economy is a result of better natural and human resources. Concerns about online communities and related communication tools have persisted for some time. How to best organise virtual learning groups (VLGs) to maximise engagement and productivity remains a mystery, even after decades of research. Focussing on influential theoretical perspectives on the interplay of virtual communication and its consequences on the efficacy and efficiency of virtual learning groups, this study analyses research on effective teaching and learning for virtual learning groups. literary disputes and online communities. Finally, it concludes with recommendations for creating a deep-learning setting that is enjoyable for students (Liu et al., 2020).

BACKGROUND OF THE STUDY

Instructional games take use of the captivating nature of video games to pique students' interest and inspire them to learn. According to long-standing research on the psychological and cognitive financial incentives produced by video games, the potential power of kids' software to increase learning may be explained by brain regions linked with attention and arousal. According to Lamb, there are primarily three types of educational video games. There are three types of educational virtual environments: educational simulations, serious games, and serious educational games. The first type is a 2D interactive virtual environment that aims to mimic the real world. Serious games are 3D virtual games that use real-world examples to train broad skills. Serious educational games are similar to serious games but have a distinct pedagogical method of delivering didactic content. Empirical evidence in this area points to the positive effects of educational games on learning and the greater cognitive advancements shown in the medical and scientific domains as a whole. The latest meta-analysis attempted to determine whether the outcomes differed according to the genre of educational games by comparing the efficacy of various game kinds in promoting learning. Educational games significantly improved learning outcomes, according to a quantitative review of 46 studies; however, the exact nature of this effect varied by game genre, game dimension, and learning setting. Specifically, 3D educational games did enhance learning outcomes, but 2D and mix educational games failed to do so. Serious educational games had a much bigger effect size when comparing the learning results of different kinds of simulators. The results showed that educational games used in junior high (grades 9–12) had a modest effect on learning outcomes, but those used in elementary (grades 6–8) had a negligible effect. The most successful learning games were those that dealt specifically with the skill being taught, in accordance with the premise that more practice with a particular ability would result in improved performance. The versatility of these skills in different settings is maybe even more crucial. This meta-analysis reveals two significant educational uses. A teacher should give serious consideration to the particular educational game they want to utilise before proceeding with any other steps. In order to maximise the learning benefits, these results support the premise that it is critical to identify the pedagogical components of serious educational games prior to implementing them in the classroom. Second, whether to apply these instructional gaming therapies may depend on important developmental considerations. Specifically, educational games used in middle school have a more positive impact on student learning than those used in high school. This might be a reflection of the fact that students' educational needs vary throughout their academic careers (Benzing et al., 2019).

LITERATURE REVIEW

No reasonable person could dispute the usefulness of educational games when used in conjunction with more traditional forms of classroom education. explored how the fast spread of ever-more-advanced technology is impacting every facet of society, leading

to significant changes in the nature and location of work, the perception and definition of identity at the individual, group, and national levels, and the proposed organisational frameworks for educational institutions. explain how edutainment, which includes instructional PC games, gained popularity as a tool to boost educational results because of its capacity to entertain while also imparting knowledge. It is harder than it looks to identify and classify games that might have an instructional purpose. Others see a continuous range, while others view them as separate groupings. highlighted the value of games in the classroom, noting that they may aid in the development of students' basic cognitive abilities and that they can reinforce important lessons. Games have the dual purpose of increasing pupils' self-esteem and helping to close the achievement gap between students who are quick and those who are sluggish. Whatever the case may be, success in higher education depends on how well learning theories are put into practice. The belief that, under certain circumstances, students may learn to solve problems on their own is central to constructivist pedagogy in computer science education. said that pupils use settling and osmosis to build upon prior information. While settling refers to adjusting to new information, osmosis refers to the act of integrating new knowledge into an existing framework. For instance, scientists have shown that learning occurs in a cyclical pattern: new information is constructed from existing body of knowledge, and this body of knowledge in turn serves as the basis for further development. The mind also generates new knowledge by contemplation of both existing and newly discovered facts. It is crucial to think about the players' motivation to learn when making an instructional game (Firth et al., 2019). Online virtual learning environments may be enhanced with additional features to facilitate deeper student engagement with course content and classmates. In particular, Coventry University may use a plethora of digital structures. Also included is the second-year computer science module "Physics for Computer Graphics," which will be input into the system. At last, a large-scale evaluation research should be carried out online to find out how effective the virtual learning environment is at fostering learning. Based on data from the Game of Island and an ordinary least squares model, the majority of students have shown substantial improvement in the following areas: sustainability, team spirit, solidarity, advancement, creativity, problem-solving, power efficiency, mathematical specificity, initiative, goal-attainment, result-orientation, flexibility, and working with the environment. The results of the econometric model prove that gaming has a positive impact on education, which is why this is the case (Fox & Beaty., 2019).

RESEARCH QUESTION

1. What can be done to pique students' attention in the classroom?

RESEARCH METHODOLOGY

Quantitative research refers to studies that examine numerical readings of variables using one or more statistical models. The social environment may be better understood via quantitative research. Quantitative approaches are often used by academics to study problems that impact particular individuals. Objective data presented in a graphical format is a byproduct of quantitative research. Numbers are crucial to quantitative research and must be collected and analyzed in a systematic way. Averages, predictions, correlations, and extrapolating findings to larger groups are all possible with their help.

Research design: In order to analyse quantitative data, SPSS version 25 was used. When analysing the statistical association, the odds ratio and 95% confidence interval were used to determine its direction and size. A statistically significant threshold was suggested by the researchers at $p < 0.05$. A descriptive analysis was used to identify the main elements of the data. Data collected via polls, surveys, and questionnaires, or changed by computer tools to preexisting statistical data, is often subjected to mathematical, numerical, or statistical assessments using quantitative approaches.

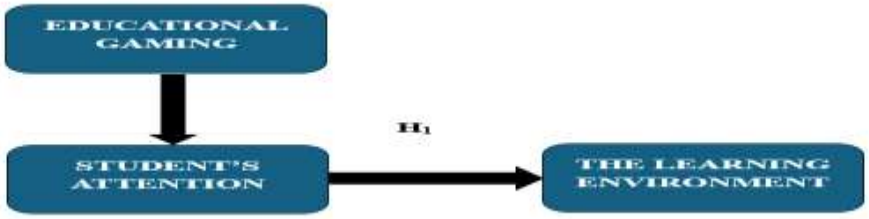
Sampling: After pilot research with 30 Chinese Researcher, 1200 Rao-soft pupils were included in the final Investors. Male and female Researcher were picked at random and then given a total of 1342 surveys to fill out. A total of 1112 questionnaires were used for the calculation after 1132 were received and 20 were rejected due to incompleteness.

Data and Measurement: A questionnaire survey functioned as the primary data collection instrument for the investigation. The survey had two sections: (A) General demographic information and (B) Responses on online and non-online channel factors on a 5-point Likert scale. Secondary data was obtained from many sources, mostly on internet databases.

Statistical software: The statistical analysis was conducted using SPSS 25 and MS-Excel.

Statistical Tools: To grasp the fundamental character of the data, descriptive analysis was used. The researcher is required to analyse the data using ANOVA.

CONCEPTUAL FRAMEWORK



RESULT

- **Factor analysis**

One typical use of Factor Analysis (FA) is to verify the existence of latent components in observable data. When there are not easily observable visual or diagnostic markers, it is common practice to utilize regression coefficients to produce ratings. In FA, models are essential for success. Finding mistakes, intrusions, and obvious connections are the aims of modelling. One way to assess datasets produced by multiple regression studies is with the use of the Kaiser-Meyer-Olkin (KMO) Test. They verify that the model and sample variables are representative. According to the numbers, there is data duplication. When the proportions are less, the data is easier to understand. For KMO, the output is a number between zero and one. If the KMO value is between 0.8 and 1, then the sample size should be enough. These are the permissible boundaries, according to Kaiser: The following are the acceptance criteria set by Kaiser:

A dismal 0.050 to 0.059, subpar 0.60 to 0.69

Middle grades often range from 0.70 to 0.79.

Exhibiting a quality point score between 0.80 and 0.89.

They are astonished by the range of 0.90 to 1.00.

Table 1: KMO and Bartlett's Test for Sampling Adequacy Kaiser-Meyer-Olkin

measurement: .720

The outcomes of Bartlett's test of sphericity are as follows: Approximately chi-square

degrees of freedom = 190 significance = 0.000

This confirms the legitimacy of claims made just for sampling purposes. To determine whether the correlation matrices were statistically significant, the researchers used Bartlett's Test of Sphericity. The sample is enough if the Kaiser-Meyer-Olkin value is 0.720. Based on Bartlett's sphericity test, the p-value is 0.00. The correlation matrix does not constitute an identity matrix if Bartlett's sphericity test yields a positive result.

Table: KMO and Bartlett's

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.720
Bartlett's Test of Sphericity	Approx. Chi-Square	3252.968
	df	190
	Sig.	.000

Using Bartlett's Test of Sphericity further established the general relevance of the correlation matrices. Kaiser-Meyer-Olkin sample adequacy is 0.720. A p-value of 0.00 was discovered by researchers using Bartlett's sphericity test. We know the correlation matrix isn't a correlation matrix since Bartlett's sphericity test produced a significant result.

- **Independent variable**

Educational Gaming:

Often used as a complement to more conventional forms of teaching, educational games are a fun and engaging way to help students learn. The term "game-based learning" describes a method of instruction that makes use of game frameworks to help students understand and apply new information in a variety of contexts, including the classroom. At its most fundamental, a classroom game is one in which the teacher presents a game and the students use it to help them learn. The many advantages of games and game-based learning are well-documented. Most importantly, children's cognitive growth is closely tied to play, and as a consequence, they acquire several transferable abilities (Soares & Storm., 2019).

- **Factor**

Student's Attention:

Learning relies on paying close attention because of the importance of memory and the mechanisms that provide good retention. But since attention is imperceptible, educators have no way of knowing if their students are really paying attention in class,

even when their actions reveal otherwise. concentration is another name for paying close attention. To practise sustained attention, one must focus intently on a single activity throughout the duration of the work at hand and then act in a way that will bring the task to a successful conclusion. Things like travelling from one location to another or reading a magazine article are examples of activities that need continuous attention. Students must exhibit continuous attention in order to finish maths problems or take tests in the classroom (Wang et al., 2019).

- **Dependent Variable**

The Learning Environment:

A "learning environment" might be anything from a classroom to a student's home to a classroom in another country. The phrase is sometimes favoured over "classroom," which conjures images of a stuffy old school with rows of desks and a blackboard and fails to capture the variety of settings where children might study, such as parks and other outdoor areas. It also includes the prevailing ethos and traits of a school or class, such as the way students interact with and treat each other, and the ways in which educators design their classrooms to promote learning, such as holding lessons in replicas of real-world ecosystems, assigning students to specific desk groups, adorning the walls with educational materials, or making use of digital, visual, and audio technologies. Additional variables that can be regarded as components of a "learning environment" include school rules, governance structures, and others, since the traits and attributes of such an establishment are influenced by several sources (Danka, 2020).

Relationship between the learning environment and students' attention:

Although there is a wealth of research showing that demographics like income, gender, and number of days attended school are strong predictors of academic success, studies looking at the impact of the actual classroom setting on students' performance are few and far between, with most studies focussing on more objective factors like temperature, air quality, and noise levels. This research takes a different approach by surveying students about their subjective impressions of their physical surroundings. It then investigates the correlation between these impressions, gender, socioeconomic position, and academic performance. The researcher also looked at a number of other relevant characteristics that may have mediated the relationship between how people perceive their surroundings and how well they did in school. Participating in the research were 441 S5 students from 5 different Chinese secondary schools. The survey asked students to reflect on their experiences at school, their conduct while enrolled,

and the outcomes they hoped to achieve academically. Further information on students' attendance, socioeconomic background, and academic performance was supplied by the Local Authority. Students' attendance, financial level, gender, and subjective impressions of their physical surroundings are highly associated to academic success, according to regression research. The relationship between students' subjective views of their physical school environment and their academic performance is influenced, according to another study, by two important "in-university behaviours," namely engaging conduct and environmental challenge. In order to examine the outcomes, the researcher takes a look at the correlation between students' perceptions of their classroom and their performance in the classroom, both directly and indirectly (Puspita, 2022).

H01: There is no significant relationship between learning environments and students' attention.

H1: There is a significant relationship between learning environments and students' attention.

Table 2: H_1 ANOVA Test

ANOVA					
Sum					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	39588.620	352	5655.517	619.312	.000
Within Groups	492.770	779	5.356		
Total	40081.390	1131			

This investigation yields remarkable results. The F value is 619.312, achieving significance with a p-value of .000, which is below the .05 alpha threshold. This means H1: "There is a significant relationship between learning environments and students' attention." The alternative hypothesis is accepted, whereas the null hypothesis is rejected.

CONCLUSION

To further my understanding of the technical and pedagogical-methodological opportunities for merging gaming with learning, I investigated the accounting course's e-learning management system "how learning might become a game" (Paudel, 2020). While this does not necessarily call for a paradigm shift in accounting education, it does serve as a timely reminder that the vast adoption of ICT has liberated vast latent capabilities that need to be used across the board in the scientific endeavour, even in the lecture hall. Not the death knell for traditional education, but rather an uptick in the use of gamified classrooms—that is, digital games—instead of traditional classroom

activities (lectures, books, assignments). Incorporating digital and virtual resources into education with care is essential to this approach, as is investigating how these developments could influence the pedagogical trends of the future. In order for professionals to utilise digital games and game-based learning effectively, both students and teachers must have faith that educational games can teach any subject, whether it's law, history, chemistry, sociology, or military-technical information. Online instructors must possess a variety of mindsets to provide a productive learning atmosphere. Whether it's learning to work alone, play, live in a community, communicate with others, or think collectively, kids thrive in living learning settings. Furthermore, it should encourage the growth of state-of-the-art specialist skills. With the help of modern information and communication technology tools, the perfect classroom environment may soon be within reach. Because of these things, "game-based learning" is starting to seem like a viable alternative (Mao et al., 2021)

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