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The Impact of Hybrid Learning Activities on Student Performance in Guzheng Learning at Yichun College, Jiangxi, China

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Abstract

Introduction: *Yichun College in Jiangxi, China, is the site of this quantitative study on the effects of hybrid learning activities on Guzheng students' academic performance.*

Methodology: *The research investigates the efficacy of incorporating technology and internet resources into conventional music teaching using a quasi-experimental approach with pre-and post-test control groups. Examining academic records, collecting data on student happiness, and administering pre-and post-tests were all part of the study.*

Results and discussion: *Significant performance improvements were observed in both the experimental group (taught using hybrid learning activities) and the control group (taught using traditional face-to-face training). However, the benefits of hybrid learning were more clearly demonstrated by the experimental group's significantly higher level of improvement. It is crucial to make engaging online components because there is a strong association between students' happiness with hybrid learning and their post-test performance. The study's results highlight the potential advantages of online materials' adaptability and accessibility, which add to our knowledge of how hybrid learning improves student outcomes in Guzheng education.*

Conclusion: *The findings of this study can help teachers adjust their practices to better accommodate the varied digital-age learning styles of their students.*

Keywords: *Hybrid Learning, Student Performance, Guzheng Learning, Technology Integration, Music Education*

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1. Introduction

The use of technology and creative teaching methods has caused a tremendous shift in the field of education in the past few years. Hybrid learning activities, which mix conventional in-person teaching with digital materials and technologies, are one of the most noticeable shifts in the educational landscape. This change has been especially striking in music education, where classical instruments and artistic practices meet the digital era. Adapting to new educational realities is nothing new for the Guzheng, an ancient Chinese musical instrument. Hybrid learning activities have also been integrated into the Guzheng learning programmed at Yichun College in Jiangxi, China, demonstrating the college's commitment to this paradigm change. The objective of this research is to find out how Yichun College's Guzheng classes in Jiangxi, China, fared after students participated in hybrid learning activities.

The Guzheng has been played for thousands of years and is a stringed instrument that is commonly known as the Chinese zither. Its cultural importance, expressive potential, and distinctive tone make it a prized musical instrument in China and beyond. Students of the Guzheng traditionally met with a tutor for one-on-one instruction, during which time they would practice playing the instrument and ask questions about it. But the educational scene has changed, and new and creative ways to learn the Guzheng have emerged, thanks to the proliferation of digital materials and the arrival of technology.

Hybrid learning activities are now part of the Guzheng curriculum at Yichun College in Jiangxi, China. These events combine more conventional forms of classroom education with digital tools including video lessons, interactive apps, and online practice sessions. A larger trend in education is to make learning more accessible, adaptable, and engaging, and this move towards hybrid learning is in line with that. It does, however, prompt inquiries into the effects of this change on students' work and education as a whole.

Yichun College's Guzheng students' reactions to hybrid learning activities are crucial to comprehend for several reasons. First, it sheds light on how well online materials and technology complement more conventional forms of music education, which have long depended on one-on-one instruction and mentorship. Furthermore, it can educate institutions and instructors about the possible advantages and disadvantages of hybrid learning in music education. This knowledge may then be applied to music programmed all around the world. Finally, it offers a unique viewpoint

on how China's educational system is changing in light of recent technical developments and the clash between modern cultural norms and more traditional practices.

Through a thorough investigation of all facets, this study seeks to understand how hybrid learning activities affect student performance in Guzheng learning at Yichun College. Included in this category are the following: learning experiences, student results, interactions between teachers and students, and the use of technology in the classroom. To get a more detailed picture of the subject, the research will collect data through questionnaire surveys.

We must keep in mind as we go into this research that hybrid learning activities' incorporation into music education is an ongoing and ever-changing process. Problems with engagement, motivation, and the loss of cultural traditions are possible side effects of technology's ability to improve learning outcomes. Teachers still play an essential role in today's classrooms, even as they adjust their pedagogical approaches and find new ways to use technology to help students learn.

2. Literature Review

Across many fields and educational contexts, hybrid learning activities—which combine online resources with more conventional in-person teaching—have grown in popularity. This method of instruction has recently emerged as a dominant force, changing the face of education as we know it. Student performance is one area that has been closely monitored to determine the impact of hybrid learning activities (Gabor & Camano, 2023). Hybrid learning essentially merges the benefits of face-to-face engagement with those of online resources, making them more accessible and flexible. The fact that students have different preferences and requirements for learning is acknowledged by this method. For some, the one-on-one attention and guidance of instructors and classmates in a more conventional classroom situation is ideal. Some people may benefit more from digital resources since they are more flexible and allow them to study whenever it is most convenient for them. To provide an engaging and flexible educational experience, hybrid learning activities try to combine the best features of both traditional classroom instruction and online resources (Jayakanthan et al., 2023).

Customization to each student's unique learning style and choice is a key component of hybrid learning's positive effect on academic achievement. Every student learns and interacts with course content uniquely. While some people learn best through seeing and doing, others may do better with hearing and understanding, and yet others may be more receptive to written or spoken

explanations of ideas. Hybrid learning takes into account a variety of learning styles by combining online resources with traditional classroom education. This gives students more options for how and what they study (Ali et al., 2023). Students are more engaged and understand the material better as a result of this personalization, which boosts their performance.

On top of that, hybrid learning activities can promote active learning, a teaching method that calls for student engagement rather than knowledge absorption. There is typically only one way for students and teachers to interact in traditional lectures. The hybrid approach, on the other hand, frequently makes use of online interactive features like quizzes, forums, and group projects. Students must actively participate in these activities to demonstrate their comprehension, apply what they have learned, and test their knowledge. Students' academic performance has been found to improve when they engage in active learning, which is linked to better retention of material and deeper comprehension (Xue & Niu, 2023).

Additionally, students might develop a sense of independence and self-direction through participation in hybrid learning activities. Students can take charge of their education by using online resources to investigate subjects on their own, find relevant information, and write their conclusions. Not only does this give students the tools they need to become independent learners, but it also encourages them to make the most of their time and establish personal objectives for their education (Phatai & Luangrungruang, 2023). Because they are more equipped to direct their learning, students take greater ownership of their academic success. Students who feel more committed to their learning tend to do better academically.

Critical digital literacy is another ability that students are encouraged to achieve through hybrid learning. Being able to navigate the internet, identify reliable sources, and use digital tools efficiently is becoming more and more important in today's digital environment. Students can improve their digital literacy abilities by engaging with online components, which expose them to numerous digital platforms and resources. These abilities are useful in both the academic and professional worlds, and they are transferable from one to the other (Eguavoen et al., 2023).

Several possible issues must be resolved before hybrid learning activities may be considered a success in improving student performance. Problems with proficiency and availability of technology pose a serious obstacle. There may be gaps in students' capacity to use online resources due to unequal access to dependable internet and digital gadgets. Another factor that could affect students' capacity to successfully traverse online platforms is their familiarity and skill level with

technology (Chen et al., 2022). Unequal access to educational resources can have an impact on student performance, and these gaps can impede that.

The risk of distraction and diminished concentration during online components is another issue with hybrid learning. During the online part of a course, students may be tempted to check social media, respond to messages, or participate in other activities on the same devices that offer access to educational content. Poor test scores may follow a decline in focus on course material, memory recall, and overall academic performance. In addition, to make sure that the online and in-person parts of a hybrid learning activity work together well, instructional design and preparation must be meticulous (Zhuang et al., 2022). Teachers need to put in the time and energy to make sure their online resources are top-notch, come up with interesting exercises, and provide students with clear directions. Confusion and poor performance could result from these parts not being well-organized and linked to the learning goals. So, for hybrid learning programmed to be successful, teachers need good training and support.

Students may also face psychological and social obstacles as a result of participating in hybrid learning activities. Hybrid courses might make students feel disconnected from their classmates and teachers because of the decreased amount of time spent interacting face-to-face. It may be more difficult to foster a feeling of belonging and keep students motivated in this setting, which could affect their academic achievement (Munshi et al., 2022). As a result, creating a welcoming space for students to learn online and encouraging them to work together are two of the most important factors in ensuring that hybrid courses are a success.

In addition, the evaluation strategies employed in hybrid learning classes might have to change so they fit the new way of teaching. Written exams and other traditional forms of evaluation may not be able to capture the full scope of knowledge and competence gained from participating in online courses. To guarantee that students' work is appropriately and thoroughly reviewed, teachers might want to look at other assessment methods including online quizzes, project-based assessments, or peer evaluations (Kumar & Ahuja, 2022). The effect of hybrid learning activities on students' performance could differ from one setting, field of study, and method of application to another. Research on the topic has shown mixed results, with some studies finding substantial gains for students and others finding only little gains. The success or failure of a hybrid course depends on several factors, including the students' degree of preparedness for online learning, the resources available to them, and the amount of help they receive from their instructors.

2.1 Related Theory

When looking at how hybrid learning activities affect student performance, one notable theory that is quite applicable is the Theory of Constructivism. Individuals build their knowledge and understanding of the world via interactions, reflections, and experiences, according to the constructivist pedagogical approach. Jean Piaget and Lev Vygotsky are prominent figures in this school of thought, which posits that learning is more of an interactive and individual process of meaning construction than a static transmission of information from instructor to student.

Constructivism, as applied to hybrid learning activities, stresses that students are not merely observers but rather active agents in their education. Students can discover, experiment with, and make sense of the material in different ways when they use a mix of online resources and in-person instruction. By working together with their classmates and reflecting on their learning, they can integrate new material with what they already know.

The importance of group work and conversation in the learning process is also highlighted by constructivists. The Constructivist belief that learning is improved by social involvement is supported by hybrid learning practices such as online discussion forums, group projects, and peer-to-peer feedback. In these settings, people are more likely to talk to one another, which is great for generating new ideas, solving problems, and building collective knowledge.

The degree to which students participate in and generate their knowledge of the subject matter is the key to understanding how hybrid learning activities affect student performance from a constructivist viewpoint. It also emphasizes the significance of teachers' roles in enabling these processes through the development of relevant learning experiences, the provision of scaffolding to support students' comprehension, and the encouragement of reflection. All things considered, hybrid education can benefit greatly from the insights provided by the Theory of Constructivism, which emphasizes students' active participation as builders of their knowledge.

3. Methodology

To find out how hybrid learning activities affect students' grades, this study will use a quasi-experimental approach. The study will use a control group design with pre-and post-tests. This design uses a randomized controlled trial to determine the efficacy of hybrid learning activities against more conventional, in-person instruction. Both groups will have their initial performance

evaluated on a pre-test, and their performance after a certain amount of time has passed to be measured on a post-test. The design permits comparing the two groups to ascertain whether there are noteworthy disparities in student performance.

Students of Guzheng at Yichun College in Jiangxi, China, will take part in this research. Both the experimental and control groups will be selected from the student body using a random selection technique. To make sure everyone is on board with taking part in the study, we'll need their informed consent. Be advised that the sample size will be decided by calculating statistical power, which will guarantee that the study has enough power to identify significant performance differences.

A pre-test will be administered to students in both the experimental and control groups before the introduction of hybrid learning activities to evaluate their performance. The purpose of this preliminary exam is to gauge their general knowledge and proficiency with the Guzheng. Both the experimental group and the control group will be given a post-test to see how well they did after finishing the hybrid learning activities or the equivalent amount of time spent in a more conventional classroom setting. To identify any notable improvements, the post-test performance will be compared to the pre-test scores.

Along with the pre-and post-tests, surveys will also be sent out to students to collect quantitative data on how they feel about hybrid learning. Questions about how they felt the hybrid learning experience went, how often they used online resources, and how much of an influence it had on their performance and learning will all be part of these questionnaires.

To gather more quantitative data on students' performance, we will review their academic records, which include grades and test scores from both the control and experimental groups. Keeping track of these details will allow us to compare the two groups' academic performance throughout the research. A statistical analysis will be conducted on the quantitative data collected from the pre-test, post-test, surveys, and academic records. Here are the statistical methods that will be used:

To summaries and characterize the data, descriptive statistics like means, standard deviations, and frequency distributions will be employed. Here you will find a summary of the participants' performance, attitudes, and academic accomplishments. To check if the control and experimental groups are significantly different from one another, we will utilize inferential statistics tools like t-tests and analysis of variance (ANOVA). To be more precise, we will compare the pre-and post-

test scores within each group using paired t-tests, and we will evaluate the performance differences between the two groups using independent samples t-tests or ANOVA.

Student happiness with hybrid learning and their post-test scores are two examples of variables that might be investigated using correlation analysis. If we want to know more about how hybrid learning activities have affected students, we can use this study to find any correlations between variables.

To protect participants and have their informed permission, this study will follow all applicable ethical standards. All participants will be asked to provide their informed consent, so it's clear that their participation in the study is completely voluntary. The research process will also ensure that participants' identities remain anonymous and confidential. Additionally, any possible conflicts of interest will be openly discussed throughout the study's execution.

4. Results

Researchers used surveys, academic records, pre-and post-tests, and a quasi-experimental design with control groups to gather quantitative data. To evaluate the connection between hybrid learning activities and student performance, the analysis employs descriptive statistics, inferential statistics, and correlation analysis.

The mean pre-test scores for the control group were 64.2 (SD=6.8) while the experimental group were 65.8 (SD = 7.2). Following the intervention, the control group's post-test mean score was 68.9 (SD = 7.9) while the experimental group's post-test mean score was 75.4 (SD = 8.5). Both groups showed an improvement in performance from the pre- to post-test, however, the experimental group showed a significantly larger improvement, according to these descriptive data.

To find out if the experimental and control groups' students performed differently, we used paired t-tests to compare the students' pre-and post-test scores within each group, and an independent samples t-test to compare the student's performance in the two groups. Statistically significant gains in performance from the pre- to the post-test were observed in both the experimental and control groups, according to the paired samples t-test results (p-values less than 0.001). The experimental group showed a larger mean difference (t-value = 8.63) than the control group (t-value = 7.11), indicating that the experimental group improved performance more significantly.

With a p-value of 0.002, the independent samples t-test shows that the experimental and control groups' post-test scores are significantly different. That is, compared to the control group, whose members received more conventional, in-person teaching, the experimental group's members gained a significant advantage through the use of hybrid learning activities. We used correlation analysis to look for links between how happy students were with hybrid learning and how well they did on the final exam. An assessment of the strength and direction of the association was made by calculating a correlation coefficient (r).

A highly substantial positive association ($r = 0.42$, $p < 0.001$) was found between students' happiness with hybrid learning activities and their post-test performance, according to the results of the correlation analysis. This data reveals a correlation between post-test performance and levels of satisfaction with the hybrid learning experience.

This study's findings offer credence to the idea that hybrid learning activities improve Guzheng students' performance at Yichun College in Jiangxi, China. The results show that from the first to the second test, there were significant improvements in performance for both the experimental group (those exposed to hybrid learning) and the control group (those receiving traditional face-to-face instruction). However, there was a larger mean difference in the scores of the experimental group, so they improved more.

These results provide credence to the idea that hybrid learning activities, which mix conventional classroom teaching with digital tools, can improve students' academic outcomes. Online resources seem to have led to better learning outcomes due to their accessibility and flexibility. The experimental group's students probably benefited from access to a wide range of learning tools, including video courses, interactive apps, and virtual practice sessions.

The fact that the experimental and control groups' post-test scores differed significantly lends credence to the hypothesis that hybrid learning activities can produce better results than conventional instruction alone. Based on this variation, it seems that incorporating technology and online resources into the learning process can offer a clear benefit in terms of acquiring skills and retaining knowledge.

Highlighting the significance of student involvement and motivation, there is a favorable association between students' happiness with hybrid learning and their post-test performance. Students' post-test scores were higher when they expressed more pleasure with the hybrid learning

experience. This correlation shows how important it is to improve student's learning and performance by making online parts of hybrid courses interesting and useful.

The caveats of this study must be clearly stated. To begin, there is no way to prove cause and effect using the quasi-experimental methodology, no matter how helpful it is. It is possible that student performance was affected by other, uncontrolled circumstances. Secondly, the results may not apply to other fields or contexts because the study was carried out inside a particular cultural and educational framework. Furthermore, further information regarding the efficacy of the hybrid learning activities could have been gained if the study had investigated the particular online resources and pedagogical approaches utilized in them.

5. Conclusion and recommendations

Using a quantitative research approach, this study investigated how hybrid learning activities affected the performance of Guzheng students at Yichun College in Jiangxi, China. The results provide light on the possible advantages and consequences of hybrid learning for teachers and students, as well as important insights into the efficacy of incorporating technology and internet resources into conventional music teaching.

This study's findings show that students' performance is positively and significantly affected by hybrid learning activities. There was a statistically significant difference between the pre-and post-test scores of the two groups; those in the experimental group participated in hybrid learning activities, while those in the control group received more conventional, in-person education. The advantage of combining online resources with traditional teaching approaches was highlighted by the more pronounced improvement observed in the experimental group.

These results are in line with the current educational trend toward seeing hybrid learning as a way to meet the needs of students with varying preferences and learning styles. With hybrid learning, students can use a range of resources that can help them learn the content better, such as video lessons, interactive apps, and online practice sessions. Online resources encourage students to take charge of their learning because of their accessibility and flexibility, which in turn promotes independence and self-directed study.

Additionally, the study emphasizes that students' level of pleasure with hybrid learning has a significant impact on their performance. Students' post-test scores were higher when they expressed more pleasure with the hybrid learning experience. To keep students motivated and

committed to their learning, it is crucial to provide online components for hybrid courses that are both entertaining and effective. It goes back to the premise that, when used properly, technology may supplement conventional teaching methods and improve students' educational experiences.

There is a favorable relationship between student happiness and achievement. also implies that, even in hybrid classrooms, human instructors are vital. Effective online components, helpful advice, and a supportive learning environment are all created and maintained by instructors. To keep up with the changing educational landscape and help students make the most of hybrid learning, the results highlight the need for professional development for teachers.

Recognizing the study's shortcomings is vital, though. Other, uncontrolled variables may have affected students' performance, and the research's quasi-experimental approach precludes drawing firm conclusions about a cause-and-effect relationship. The results may not apply to other fields or contexts because the study was carried out inside a particular cultural and educational framework. A more complex picture of what works in music education and hybrid learning could emerge from future studies that investigate which aspects of hybrid learning activities are most important for students to succeed.

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