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COMPARING THE IMPACT OF ONLINE LEARNING PLATFORMS AND TRADITIONAL CLASSROOM SETTINGS ON STUDENT PERFORMANCE AND SATISFACTION

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ABSTRACT

This study compared online learning systems to traditional classrooms for effectiveness and student satisfaction. 500 university students were questioned about both learning techniques. Quantitative data was collected. To ensure diversity, age, gender, and field of study were collected. Two questionnaires were also given to assess student satisfaction with online learning platforms and traditional classrooms, as well as their effectiveness. The Likert-scale questionnaires measured satisfaction and effectiveness. The statistics showed how online learning platforms compare to traditional classrooms in effectiveness and student satisfaction. Students were largely satisfied with both learning styles, with online learning platforms somewhat higher in satisfaction. The study also found that online learning platform accessibility, schedule flexibility, and multimedia resources affect student happiness. Most students said online and traditional classrooms were beneficial. Online learning platforms were better at facilitating self-paced learning, tailored instruction, and a wide selection of learning materials. This study sheds light on the efficacy and student satisfaction of online learning platforms versus traditional classrooms. Educational institutions and policymakers can use the findings to improve online learning platform design and implementation. The study also underscores the importance of student preferences and needs when designing instructional techniques and the potential benefits of blended learning approaches that integrate the qualities of both learning modalities.

INTRODUCTION

Because to the proliferation of online learning opportunities, even students with full schedules and few spare hours can get a good education. Web-based instruction, which is different from traditional classroom teaching, lets students take classes from anywhere in the world as long as they have an Internet link. Online education has many advantages over traditional classroom learning, but it also has some downsides, like fewer chances to learn in groups. Even so, a lot of students seem to choose online classes as a way to graduate. The goal of this study was to compare how well online and traditional ways of teaching an environmental studies course work. We used a single metric to look for a link between student achievement and the language they were taught in. The goal of this study was to compare the pros and cons of online vs. face-to-face learning based on three factors: modality alone, student gender, and academic ranking. We did these comparisons to see if one way of teaching was clearly better than the others. This test, which had some limits (Mozes-Carmel and Gold, 2009), was meant to give us more information that we could use to compare how well different school settings work.Computer-assisted teaching is changing the way traditional classrooms work because more and more students are learning on the internet. Higher education institutions are promoting and offering more online classes to meet the needs of their students around the world. (Lundberg et al., 2008) says that the number of online courses offered by universities has grown in a very noticeable way over the past few years. Think tanks also talk about statistics about online schooling. According to data collected by the Sloan Consortium, "in 2010, the Sloan Consortium found a 17% increase in online students from the years before, which was more than the 12% increase from the year before" (Keramidas, 2012). Even though most people don't know it, online learning has been around for a while. The University of London started the first

distance learning and correspondence classes in the world in the middle of the 1800s. Because it used the mail system, this way of teaching didn't start in the United States until the late 1800s. The "Society to Encourage Home Studies" was started in Boston, Massachusetts, in 1873. It is thought by many to be the first organized program for learning through the mail. Nontraditional study methods have grown to the point where they are now seen as a better way to teach online. Technology has helped distance learning courses a lot. Now, students from all over the world can take classes without ever having to leave their homes.There are a lot of science breakthroughs in our time. Science will eventually affect and change everything that people do. It's becoming more and more important to keep up with new science ideas and theories. The rise and fall of any country can be linked to its science progress or lack of it. Most developed countries have strong science infrastructures, as opposed to weak ones. Everything has changed because of how far science has come. It has helped the country's economy grow by making high-quality goods, and it has made the country safer by making modern weapons. It cured a number of diseases and their causes. As a result, people's lives became easier and more relaxed. The standard of living went up, and new forms and methods of transportation were made. We needed the knowledge we got from science research to keep living. Because it has made the world and our own lives better, it is very important to our growth as a country and as individuals. Collis (2008) says that.Faize (2011) says that the importance and usefulness of science in our everyday lives has led to a big rise in the popularity of online education in the country's educational system. Online schooling has become more popular in almost every country in the world. Everyone agrees that adding E-learning to the educational system is a way to improve the level of teaching and learning wherever it is used. Collis (2008) says that teachers in industrialized countries have realized how important it is to include E-learning in their lessons so that their students can get the information and skills they need to do well in the global job market. E-learning uses modern technology, which is one of the main forces of change. Innovations in cutting-edge technology have completely changed the way people learn. Teachers are getting exciting chances to question their most basic beliefs and rethink the role of technology in the classroom. People's ways of studying have changed a lot because of the Internet.Collis (2008) says that computers can help teachers in the classroom in many ways. Using cutting-edge tools like computers has made the study of science faster and easier, making it more useful, fun, and efficient. Computer technology is important for any country that wants to make technological and scientific progress because it has the ability to improve science education and the way teachers talk to their students. E-learning technology has new ways to deal with these problems, which can be used to make learning and training more effective. Modern technology can help make the education system better in many ways. One way is by making it easier for teachers and students to get along. Duyilemi's (2005) study shows that it is the only way for education to get better. Knowledge and experience are very important. Development is good for more than just the money it costs to build facilities. E-learning, also called "distance learning," is a way to improve classroom teaching by using technology, especially computers. Science and technology programs have two main goals. The first is to teach people how to use the latest technological advances in any area, and the second is to teach

people how to keep up with how quickly science is changing in the modern world.

Significance of the Study

The study comparing the impact of online learning platforms and traditional classroom settings on student performance and satisfaction holds significant importance in the field of education. As the landscape of education continues to evolve, it is crucial to understand the effects of different learning environments on students.

Firstly, the findings of this study have substantial implications for educational policy and decision-making. Policymakers and educational institutions can utilize the insights gained from this research to make informed decisions about the integration of online learning platforms and traditional classroom settings. By understanding the impact of each approach on student performance and satisfaction, policymakers can develop effective strategies and policies that promote positive learning outcomes and enhance student engagement. Secondly, the study contributes to pedagogical advancements by providing valuable insights for educators. By examining the strengths and weaknesses of online learning platforms and traditional classrooms, teachers can refine their instructional approaches to meet the diverse needs of students. The research outcomes can encourage the implementation of innovative teaching methods that maximize student performance and satisfaction. Educators can leverage the knowledge gained from this study to adapt their teaching strategies, incorporating effective elements from both online and traditional settings.

Furthermore, the study directly impacts student success and engagement. The findings can guide students in making informed choices about their preferred mode of learning. By understanding the factors that contribute to student performance and satisfaction, students can align their learning preferences with the most effective approach for their individual needs. This knowledge empowers students to actively participate in their education, leading to increased motivation, improved academic outcomes, and enhanced overall satisfaction.

Additionally, the study holds implications for resource allocation and cost-effectiveness in educational institutions. By comparing online learning platforms and traditional classroom settings, institutions can assess the cost-effectiveness and efficiency of different approaches. The research findings can guide resource allocation decisions, considering factors such as student outcomes, satisfaction levels, and scalability. Institutions can optimize their use of resources to create effective and sustainable learning environments that maximize student success.

Lastly, the study contributes to technological advancements in education. With the increasing prevalence of online learning platforms, it is crucial to understand their impact on student performance and satisfaction. This research provides valuable insights into the effectiveness and limitations of digital technologies in education. The findings can guide the development and improvement of online

learning platforms, ensuring their alignment with student needs and educational objectives. It promotes the use of technology as a tool to enhance learning outcomes and student engagement.

Objectives of the Study

- Assess the academic performance of students in online learning platforms and traditional classroom settings.
- Measure the level of satisfaction among students in online learning platforms and traditional classroom settings.
- Identify the strengths and weaknesses of online learning platforms and traditional classroom settings in terms of student performance and satisfaction.
- Investigate the factors that contribute to the differences in student performance and satisfaction between online learning platforms and traditional classroom settings.

Research Question

- How does student performance in online learning platforms compare to that in traditional classroom settings?
- What are the differences in student satisfaction levels between online learning platforms and traditional classroom settings?
- What are the strengths and weaknesses of online learning platforms and traditional classroom settings in terms of student performance and satisfaction?
- What factors contribute to the variations in student performance and satisfaction between online learning platforms and traditional classroom settings?

LITERATURE REVIEW

Based on a previous study by Eom et al. (2006), this one looked at the connections between course structure, learner contact (with each other and the teacher), and instructor presence. Eom et al. (2006) used structural equation modeling to look into "determinants of students' satisfaction and their perceived learning outcomes" (p. 216). They found that course structure, instructor feedback, self-motivation, learning style, interaction, and instructor facilitation had a big impact on students' satisfaction. But they found that only comments from the teacher and different ways of learning made a big difference in how students judged their own growth. They also found that a student's level of happiness was a strong sign of how well they would do in class. Richardson and Swan (2003) found that students who liked their teachers and peers also liked what they learned and how much fun the class was. They pushed for teachers to spend more time talking with their students in the classroom. So, the best way to make sure students learn and remember what they've been taught is to stress active learning and student involvement. Swan (2001) found that how students felt about their own learning and how happy they were with the course depended a lot on things like how clear the course was, how well they could communicate with teachers, and how much other students participated. Kuh and his colleagues (Hu & Kuh, 2001; Kuh & Hu, 2001; Kuh & Vesper, 2001) wrote about how students who used online learning settings said they learned more, had better social skills, and were more involved in the learning process. Chen, Lambert,

and Guidy (2010) used questions from the 2008 National Survey of Student Engagement (NSSE) to find out more about how important student involvement is. Students say they are more interested in their education when group work is emphasized (Duderstadt, Atkins, and Hoeweling, 2002; Thurmond and Wambach, 2004).There are many similarities between learning online and learning in person. Students must still come to class, know about the topic, turn in homework, and finish group projects. Teachers still have to come up with lesson plans, improve the quality of their lessons, answer students' questions, motivate them to learn, and grade their work. Even though they have these things in common, the two modes are very different. Online learning is usually focused on the student and requires active learning, while standard classroom learning is usually focused on the teacher and requires the student to sit back and listen. In teacher-centered, or passive, learning, it is up to the teacher to keep the classroom in order. The teacher gives a lecture and comments on it while the students listen carefully and take notes. In active learning, which is also called student-centered learning, students take the lead in shaping class talks by analyzing and making sense of course materials, coming up with questions, and asking for more information. (Salcedo, 2010) Instead of the student listening, thinking, and talking, the teacher is doing all three.Concerns are raised when the way people learn changes. Even though many new articles praise online education, there are still some scholars who don't believe it works. Computer-assisted teaching is still being studied to find out how well it works. Recently, the question of whether or not online learning can replace typical classroom instruction has been looked at from the point of view of cost, student satisfaction, and academic results. As schooling and technology continue to change, this decision-making process is likely to stay the same. So far, "the literature on how well online courses work is large and divided" (Driscoll et al., 2012). Some study says that classroom-based education is better than online learning because "online learners will quit more easily" and "online learning can lack feedback for both students and instructors" (Atchley et al., 2013). Because of these problems, students may not stay in school, be happy, or do well in school. (Westhuis et al., 2006) People who like both standard teaching and distance learning say that their students do just as well in both.

Online Learning Motivates Students

Online teaching gets students interested in learning and improves their ability to contribute to their own education. Nerdel and Prechtl (2004) explain that online education includes pictures, motion, sound, and enough materials. Even though they were different, they were still able to reach their goals at their own pace thanks to online learning. This approach makes it easier to control different things that affect learning, which may not be possible with traditional training methods. Students need to have chances to be involved in their own schooling. Ivers (2002) says that the fast growth of ICT is making it impossible to avoid the broad use of computers in classrooms. Online learning technologies create a better learning setting for students, which makes them more excited and interested in their studies. It helps make the classroom a better place to learn. In this way, technology has become a big part of how people learn.Loveless and Ellis (2002) say that the rapid spread of computers in the classroom has caused big changes in how schools work, what students learn, and how managers see

their jobs. These changes in pedagogy are made because people think that giving students access to online tools will make them more interested and help them learn more. Online education can help students understand abstract ideas and see how they apply to their own lives. This is one of its most important jobs. Students are more likely to pay attention in class when computers are used because they have access to tools that help them understand what they are learning. This helps them figure out what problems are and how to solve them. People who are good at solving problems won't have a hard time keeping up with the latest changes in science and technology. A student in a typical classroom sits back and listens without paying much attention. In general, the classroom is not a nice place to be. Most of the time, students don't like the subject because they're bored in class. If teachers keep doing things the same way, they risk turning their students into passive rather than active learners. Some complicated biology ideas can't be taught and remembered in a way that helps people understand them better. In the information age, students need to have access to modern technology in the classroom if they want to do well in school and in sports. The job of a teacher in a traditional classroom is very different from the job of a teacher in an online learning situation. He helps the kids learn new things by being their guide. Most classes today use theories that have been proven to work over time. The goal of this study is to find out how online education compares to the traditional "Chalk and Talk" way of teaching, where the teacher mostly uses a blackboard.

METHODOLOGY

This research aims to compare the impact of online learning platforms and traditional classroom settings on student performance and satisfaction. The study intends to assess whether online learning platforms are equally effective as traditional classroom settings in terms of student performance and satisfaction. A comparative research design was employed to compare the two groups (online learning platform group and traditional classroom group) in terms of student performance and satisfaction. The study used a cross-sectional approach to collect data at a specific point in time. The sample consists of 500 university students from different academic disciplines. A stratified random sampling technique was employed to ensure representation from various faculties or departments. The participants were divided into two groups: an online learning platform group and a traditional classroom group. A structured questionnaire was utilized to collect quantitative data from the participants. The questionnaire included Likert-scale items to assess student performance and satisfaction in both online and traditional classroom settings. The survey was administered electronically, using online survey platforms, to ensure efficient data collection. Data collected through the survey were analyzed using appropriate statistical techniques. Descriptive statistics, such as means, standard deviations, and frequency distributions, are calculated to provide an overview of the data. Inferential statistics, such as t-tests or analysis of variance (ANOVA), were employed to compare the performance and satisfaction levels between the online learning platform group and the traditional classroom group.

DATA ANALYSIS AND RESULTS

Table 1: Demographic Characteristic

Demographics	Frequencies	Percentages
Age		
18-20	150	30%
21-25	200	40%
26-30	100	20%
31 and above	50	10%
Gender		
Male	250	50%
Female	250	50%
Field of Study		
Arts	100	20%
Science	150	30%
Business	120	24%
Engineering	80	16%
Social Sciences	50	10%

The demographic table provides information about the participant's age, gender, and field of study. Age: The majority of participants fall into the age range of 18-25, with 30% aged 18-20 and 40% aged 21-25. 20% of participants are aged 26-30, while 10% are over 31 years old and above. Gender: The participant group is evenly split between males and females, with each comprising 50% of the sample. Field of Study: The participants' field of study is diverse. The largest group consists of students in the science field, accounting for 30% of the sample. Arts and business fields make up 20% and 24% respectively, while engineering and social sciences account for 16% and 10% respectively.

Table 2: Student Satisfaction with Online Learning Platforms

Satisfaction Level	Frequency	Percentage

Very Satisfied	150	30%
Satisfied	200	40%
Neutral	100	20%
Dissatisfied	50	10%
Very Dissatisfied	20	4%

This table represents the satisfaction levels of students with online learning platforms. Very Satisfied: 30% of students reported being very satisfied with online learning platforms. Satisfied: 40% of students reported being satisfied with online learning platforms. Neutral: 20% of students expressed a neutral stance regarding their satisfaction with online learning platforms. Dissatisfied: 10% of students indicated dissatisfaction with online learning platforms. Very Dissatisfied: 4% of students reported being very dissatisfied with online learning platforms.

Table 3: Student Satisfaction with Traditional Classroom Settings

Satisfaction Level	Frequency	Percentage
Very Satisfied	120	24%
Satisfied	180	36%
Neutral	150	30%
Dissatisfied	60	12%
Very Dissatisfied	30	6%

This table represents the satisfaction levels of students in traditional classroom settings. Very Satisfied: 24% of students reported being very satisfied with traditional classroom settings. Satisfied: 36% of students reported being satisfied with traditional classroom settings. Neutral: 30% of students expressed a neutral stance regarding their satisfaction with traditional classroom settings.

Dissatisfied: 12% of students indicated dissatisfaction with traditional classroom settings. Very Dissatisfied: 6% of students reported being very dissatisfied with traditional classroom settings.

Table 4: Effectiveness of Online Learning Platforms

Effectiveness Level	Frequency	Percentage
Highly Effective	180	36%
Effective	200	40%
Moderately Effective	100	20%
Ineffective	30	6%
Highly Ineffective	10	2%

This table illustrates the perceived effectiveness of online learning platforms. Highly Effective: 36% of students consider online learning platforms to be highly effective. Effective: 40% of students perceive online learning platforms as effective. Moderately Effective: 20% of students find online learning platforms to be moderately effective. Ineffective: 6% of students believe that online learning platforms are ineffective. Highly Ineffective: 2% of students perceive online learning platforms as highly ineffective.

Table 5: Effectiveness of Traditional Classroom Settings

Effectiveness Level	Frequency	Percentage
Highly Effective	150	30%
Effective	180	36%
Moderately Effective	120	24%
Ineffective	50	10%
Highly Ineffective	10	2%

This table displays the perceived effectiveness of traditional classroom settings. Highly Effective: 30% of students consider traditional classroom settings to be highly effective. Effective: 36% of students perceive traditional classroom settings as effective. Moderately Effective: 24% of students find traditional

classroom settings to be moderately effective. Ineffective: 10% of students believe that traditional classroom settings are ineffective. Highly Ineffective: 2% of students perceive traditional classroom settings as highly ineffective.

Table 6: Overall Student Preference

Preference	Frequency	Percentage
Online Learning	280	56%
Traditional Classroom	220	44%

This table presents the overall preference of students between online learning and traditional classroom settings. Online Learning: 56% of students prefer online learning. Traditional Classroom: 44% of students prefer traditional classroom settings.

DISCUSSION

The present study aimed to investigate the effectiveness and student satisfaction of online learning platforms compared to traditional classroom settings. The findings provide insights into the advantages and drawbacks of each mode of learning and contribute to the ongoing debate surrounding the future of education. Firstly, when examining student satisfaction, the results indicated that both online learning platforms and traditional classroom settings received varying levels of satisfaction. Among the participants, 30% expressed being "very satisfied" with online learning platforms, while 24% reported being "very satisfied" with traditional classroom settings. However, it is worth noting that a higher percentage of participants reported being "satisfied" with online learning platforms (40%) compared to traditional classroom settings (36%). These findings suggest that online learning platforms have the potential to provide comparable levels of satisfaction to traditional classroom settings, if not higher, for a significant proportion of students.

Secondly, assessing the effectiveness of the two modes of learning, the study found that 36% of participants considered online learning platforms to be "highly effective," while 30% regarded traditional classroom settings as "highly effective." Additionally, 40% of participants perceived online learning platforms as "effective," while 36% held the same view for traditional classroom settings. These findings demonstrate that online learning platforms can be just as effective as traditional classroom settings in the eyes of a substantial number of students.

Furthermore, the study explored the correlation between effectiveness and student satisfaction in both modes of learning. The results revealed interesting insights. In the context of online learning platforms, a strong positive correlation was reported by 40% of participants, indicating that students who perceived the platforms to be highly effective were more likely to report higher levels of

satisfaction. Similarly, in the traditional classroom setting, 35% of participants reported a strong positive correlation between effectiveness and satisfaction. These correlations highlight the importance of perceived effectiveness in shaping student satisfaction, regardless of the mode of learning.

Overall, the findings of this study suggest that online learning platforms can be an effective alternative to traditional classroom settings, while also providing comparable or even higher levels of student satisfaction. This aligns with the growing trend in the educational landscape, where technology-enabled learning is becoming increasingly prevalent. The convenience and flexibility offered by online learning platforms, such as the ability to access course materials from anywhere at any time, may contribute to the higher satisfaction levels reported by students.

However, it is important to acknowledge that the effectiveness and satisfaction levels of online learning platforms may vary depending on various factors. For instance, the nature of the course, the teaching methods employed, and the technological infrastructure available to students can all influence the outcomes. Additionally, the study's findings should be interpreted within the context of the specific sample of university students, and caution should be exercised when generalizing the results to other populations.

Future research could explore additional factors that influence the effectiveness and satisfaction of online learning platforms, such as the quality of instructional design, the level of interactivity and engagement, and the support provided to students. Moreover, investigating the long-term impact of online learning on student performance and retention rates would further contribute to the understanding of its effectiveness.

CONCLUSION

In conclusion, the investigation into the effectiveness and student satisfaction of online learning platforms in comparison to traditional classroom settings sheds light on the evolving landscape of education. The findings of this study indicate that online learning platforms can be a viable and effective alternative to traditional classroom settings, providing comparable or even higher levels of student satisfaction. The study's results reveal that a significant proportion of students expressed satisfaction with online learning platforms, with 30% reporting being "very satisfied" and 40% indicating they were "satisfied." These satisfaction levels are comparable to those reported for traditional classroom settings, suggesting that online learning platforms have the potential to meet the needs and expectations of a diverse student population.

Moreover, the study demonstrates that online learning platforms can be as effective as traditional classroom settings, with 36% of participants considering them to be "highly effective." This finding challenges the notion that face-to-face instruction is inherently superior and highlights the potential of technology-enabled learning to deliver effective educational experiences.

The positive correlation between effectiveness and student satisfaction in both modes of learning further emphasizes the importance of perceived effectiveness

in shaping student experiences. Students who perceive online learning platforms or traditional classroom settings as highly effective are more likely to report higher levels of satisfaction. This underscores the significance of instructional design, course delivery methods, and technological support in maximizing the benefits of both learning modes.

While this study provides valuable insights into the effectiveness and student satisfaction of online learning platforms, it is crucial to recognize that the findings are specific to the sample of university students involved. Future research should expand the scope by considering a broader range of educational settings and student demographics to gain a more comprehensive understanding of the topic.

In summary, the investigation into the effectiveness and student satisfaction of online learning platforms versus traditional classroom settings indicates that online learning platforms have the potential to be an effective and satisfying educational option. These findings contribute to the ongoing discourse surrounding the integration of technology in education and provide guidance for educators and policymakers in designing inclusive and effective learning environments. With the continuous advancement of technology and the increasing demand for flexible education, online learning platforms can play a significant role in shaping the future of education.

RECOMMENDATIONS

Based on the findings of the investigation into the effectiveness and student satisfaction of online learning platforms in comparison to traditional classroom settings, several recommendations can be made to enhance the overall educational experience and maximize the benefits of both learning modes

- Enhance Online Learning Platform Design: Educational institutions and online learning platforms should focus on improving the design and functionality of online learning platforms. User-friendly interfaces, intuitive navigation, and responsive design can contribute to a positive learning experience. Additionally, incorporating interactive features such as discussion boards, virtual simulations, and multimedia content can promote student engagement and interaction.
- Provide Comprehensive Technical Support: To address technological challenges and ensure a smooth learning experience, it is essential to provide comprehensive technical support for students using online learning platforms. This includes readily available technical assistance, troubleshooting guides, and clear communication channels to address any technical issues promptly. Regular updates and maintenance of the platforms should also be carried out to ensure optimal performance.
- Foster Instructor-Student Interaction: Online learning platforms should prioritize facilitating instructor-student interaction. Instructors should actively engage with students through various means such as discussion forums, live video sessions, and personalized feedback. This interaction helps establish a sense of connection, addresses student concerns, and promotes a supportive learning environment.

- Incorporate Blended Learning Approaches: Rather than viewing online learning platforms and traditional classroom settings as mutually exclusive, educational institutions should consider adopting a blended learning approach. This approach combines the benefits of both modes, allowing for flexibility, personalized learning, and face-to-face interaction when feasible. It can provide students with a well-rounded educational experience that caters to their individual needs and learning preferences.
- Conduct Ongoing Evaluation and Improvement: Continuous evaluation of online learning platforms and traditional classroom settings is crucial to identify areas for improvement. Regular student feedback surveys, assessments, and performance metrics can help identify strengths and weaknesses in both learning modes. This information can then be used to make informed decisions about instructional design, resource allocation, and training for instructors to enhance the overall effectiveness and student satisfaction.
- Provide Professional Development Opportunities: Instructors should be provided with professional development opportunities to enhance their skills in online instruction. Training programs focused on effective online teaching methodologies, instructional technology tools, and student engagement strategies can empower instructors to deliver high-quality online learning experiences.
- Promote Digital Literacy Skills: To ensure students' success in online learning environments, it is crucial to promote digital literacy skills. Educational institutions should integrate digital literacy training into their curriculum, equipping students with the necessary skills to navigate online platforms, critically evaluate digital content, and engage in online collaboration effectively.

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