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The Disconnect Between Student and Educator Perspectives on Effective Technology Usage in Higher Education

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Abstract

This article explores the disconnect between student and educator perspectives regarding practical technology usage in higher education. As technology continues to play an increasingly prominent role in the educational landscape, understanding the differing viewpoints of students and educators is crucial for designing impactful technology integration strategies. Through a comprehensive literature review, this article examines the factors contributing to the disconnect and its implications for teaching and learning in higher education. Additionally, recommendations are provided to bridge this gap and promote a more aligned understanding of effective technology usage between students and educators.

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Introduction

Technology integration in higher education has been widely recognized for its potential to enhance student engagement and learning outcomes (Carver, 2016; Sorrells, 2009; Venkatesh et al., 2014). However, there needs to be more connection between student and educator perceptions regarding the effective use of these tools in the classroom. This issue must be addressed, as ineffective technology usage can harm student achievement (Imran et al., 2020; Schacter, 1999). While students often view technology as facilitating active learning, flexibility, and personalized education, educators may need help effectively incorporating these tools into their teaching practices.

Generational differences, varying levels of technological proficiency, and the availability of professional development opportunities further complicate this disparity. Students appreciate when technology complements traditional teaching methods, allowing for interactive, collaborative, and student-centered learning experiences.

Conversely, they express frustration when technology is poorly integrated, overly complex, or misaligned with course objectives. Educators, on the other hand, may rely on outdated practices, face resource constraints, or need more training, leading to ineffective technology usage that can hinder student performance. These issues have been studied and verified in various educational contexts, such as public and private universities, diverse grade levels, different teaching modalities, domestic and international settings, and based on various technology tools (Ainin et al., 2015; Bragdon & Dowler, 2016; Grinager, 2008; Henderson et al., 2017; Rashid & Asghar, 2016; Schacter, 1999).

Despite the increasing prevalence of technology in education, this disconnect between students and educators poses challenges for maximizing its benefits. Inefficient implementation methods, such as selecting tools based on convenience or novelty rather than pedagogical value, contribute to the issue. Educators' personal beliefs, need for up-to-date knowledge, and insufficient institutional support further exacerbate the problem. As a result, the potential of technology to improve learning outcomes has yet to be fully realized, and students may feel that their educational needs need to be adequately met. This disconnect may be detrimental to students as numerous studies have demonstrated the positive effects of specific technology tools on student performance (Cheng et al., 2015; Fonseca et al., 2014; Sorrells, 2009). Therefore, to address this gap, institutions must invest in targeted professional development, promote ongoing dialogue between students and educators, and create a supportive culture that encourages technology's practical and purposeful integration into the learning environment. Educators can better meet student expectations by aligning technology with evidence-based instructional strategies, ultimately fostering a more engaging and productive educational experience.

Understanding and addressing this discrepancy between student and educator perspectives is crucial for maximizing the benefits of technology integration in education. Therefore, this article explores the divide between student and educator perceptions of effective technology use in educational settings. By exploring this gap and its implications, we can gain valuable insights into the challenges and opportunities that arise when attempting to align student and educator perspectives. By doing so, we can develop strategies to bridge this divide, ultimately fostering a more productive and impactful learning environment for students.

Student Perspectives on Technology Usage

The views and experiences of students regarding technology usage in education play a crucial role in understanding the disconnect between student and educator perspectives. Students have reported positive experiences working with smart devices, highlighting the benefits of incorporating such devices into the learning process (Bouhnik et al., 2016). Furthermore, specific technology tools, such as online games and media, have significantly improved student performance and retention of course content (Cheng et al., 2015; Sorrells, 2009). Social media platforms, like Facebook and YouTube, have also gained attention from students for their potential educational value. Contrary to previous studies, increased usage of Facebook has been found to positively impact academic performance (Ainin et al., 2015).

Moreover, students believe that YouTube, among other social media tools, can enhance their learning experience due to its ability to share content (Neier & Zayer, 2015). However, it is worth noting that not all technology tools have been well-received by students. Discussion boards, for example, have produced negative results, with students finding them time-consuming, needing more instructor interaction, and exhausting (AlJeraisy et al., 2015).

Beyond the tools themselves, students' experiences with technology in the classroom reveal more profound insights into what they believe constitutes effective use of technology in education. Many students express that more than access to technology is needed; they value how these tools are integrated into their learning experiences (Andrew et al., 2018). For instance, students appreciate when technology is used to facilitate active learning, such as through interactive simulations or collaborative projects, rather than just for passive consumption of information. They feel that these technology applications help them engage more deeply with the content and retain information better (Carver, 2016; Sorrells, 2009). Additionally, students often emphasize the importance of flexibility in technology use, preferring tools that allow them to access course materials on their own time and at their own pace, which aligns with their desire for a more personalized learning experience.

Student perspectives on technology usage are shaped by various factors, including their backgrounds, prior experience with technology tools, and the diversity of tools available. Research has indicated that student performance can be influenced by their access to technology tools, such as laptops, tablets, and smartphones (Ottenbreit-Leftwich et al., 2018; Carver, 2016;

Kravik, 2004). However, despite having access to technology, older students use it less frequently than their younger counterparts (Staddon, 2020). This generational difference highlights the need for educators to recognize and adapt to the varying levels of technological proficiency among students (Monk et al., 2015). While prior experience with a technology tool can be beneficial, it does not guarantee a student's preference or understanding of its academic use (Alzahrani & O'Toole, 2017; Romero Martínez et al., 2020). Students may only utilize technology tools within the classroom for specific tasks rather than wholly embracing their potential (Kravik, 2004). Therefore, educators should be mindful of students' perceptions and expectations when selecting technology tools for instruction (Neier & Zayer, 2015; Chang et al., 2015).

Students also point out that the effectiveness of technology in the classroom is closely tied to how well it is integrated with traditional teaching methods. They often report that technology is most beneficial when it complements and enhances their learning rather than replacing face-to-face interaction or hands-on activities (Bragdon & Dowler, 2016; Georgina & Olson, 2008; Grinager, 2008). For example, students might find value in using digital platforms for group work or peer feedback, but they still appreciate the structure and clarity provided by direct instruction from teachers. In this context, students are particularly critical of technology, which feels disconnected from the course objectives or adds unnecessary complexity to their learning process. This feedback suggests that students are not simply passive recipients of technology but are actively evaluating its impact on their educational experience.

Student perceptions also play a crucial role in determining the effectiveness of technology integration. Positive attitudes toward technology tools have been found to correlate with increased student performance and better academic outcomes (Deneen et al., 2018). However, having a positive attitude only sometimes translates to improved performance, indicating the need for a deeper understanding of how students perceive and utilize technology tools (Alzahrani & O'Toole, 2017). Student preferences for technology usage align with their desire for active learning, flexibility, and the incorporation of mobile learning tools (Ali & Arshad, 2017; Misseyanni et al., 2020). Students expect educators to provide a mix of technology tools that cater to different learning tasks within the classroom (Andrew et al., 2018). Additionally, student beliefs are often shaped by their experiences in the classroom, leading them

to view specific technology tools, like blogs, as beneficial for enhancing specific skills (Mai & Bao, 2020). However, students' use of technology in the classroom is only sometimes limited to academic purposes, as they may also engage in non-academic activities through their cell phones and other personal devices (Kornhauser et al., 2016).

When discussing their experiences, students frequently mention the importance of feeling supported and understood in their use of technology. They often express frustration when technology is used without proper guidance or when technical difficulties arise without adequate support. Students believe that effective technology use requires a balance between innovation and practicality, where tools are chosen not just for their novelty but for their ability to facilitate meaningful learning experiences (Carver, 2016; Sorrells, 2009; Venkatesh et al., 2014). This perspective highlights the need for ongoing dialogue between students and educators, ensuring that technology enhances, rather than hinders, the educational process.

Frequent use of technology tools has been associated with various student benefits, such as increased motivation, engagement, improved self-confidence, and student-centric learning (Carver, 2016; Sorrells, 2009). However, educators must recognize that more than technology usage is needed to guarantee pedagogical effectiveness. The purposeful integration of technology tools and consideration of factors like accessibility and student population are crucial for maximizing the benefits of technology usage (Kemp et al., 2014; Regan et al., 2002). Educators should actively seek student feedback to understand their perceptions better and adjust their technology usage accordingly (Hoffmann & Ramirez, 2018). By considering student perspectives, expectations, and experiences, educators can bridge the gap between their and students' perceptions, leading to more effective and impactful technology integration in the classroom (Henderson et al., 2017; Tsai, 2000). Ultimately, this collaborative approach can create a more engaging and student-centered learning environment.

Educator Perspectives on Technology Usage

Understanding educators' perspectives on technology usage is essential to address the disconnect between students and educators regarding effective technology integration. Educators may need to understand how students perceive practical technology usage (Henderson et al., 2017). Consequently, they unknowingly employ tools or approaches that negatively impact student performance. To bridge this gap, it is crucial to consider the factors that influence

educator technology preferences. According to Afshari et al. (2009), several factors determine why and how educators use technology. Personal characteristics, such as years of teaching experience, learning style, and computer competency, play a significant role. Educators with more teaching experience may have different perspectives on technology than their less experienced counterparts. Likewise, an educator's learning style can influence their preference for specific technology tools or approaches. Additionally, those more technologically proficient may be more inclined to incorporate technology into their teaching practices.

The rationale for using technology in the classroom goes beyond mere skill acquisition; it is about enhancing the overall educational experience and meeting the evolving needs of students. Technology allows for creating more dynamic and interactive learning environments where students can engage with content in ways that are impossible through traditional methods. For instance, technology can facilitate personalized learning experiences, where students can progress at their own pace, access resources tailored to their learning styles, and receive immediate feedback on their performance. This individualized approach can help address the diverse learning needs within a classroom, ensuring that all students have the opportunity to succeed. Moreover, technology integration can prepare students for the demands of the modern workforce. In today's digital age, technological proficiency is not just a desirable skill but a necessity. By incorporating technology into the classroom, educators can equip students with the tools they will need in their future careers, such as digital literacy, problem-solving skills, and collaboration in virtual environments. This forward-thinking approach to education ensures that students learn content and develop the competencies required to thrive in a rapidly changing world.

Professional development availability and institutional support are additional factors highlighted by Afshari et al. (2009). Educators with access to regular professional development opportunities focused on technology integration are likelier to develop a positive perspective on its usage. Furthermore, the commitment of the university or educational institution to technology and the availability of technical support can significantly impact educators' willingness to embrace technology in their classrooms. By understanding these factors that shape educators' perspectives on technology usage, institutions can design targeted interventions to support educators in their technology integration efforts. Providing tailored professional development

programs, fostering a supportive institutional culture, and addressing individual educator needs can help bridge the gap between students and educators and promote practical technology usage in educational settings.

Additionally, technology can foster a more collaborative and connected classroom environment. Tools such as online discussion forums, collaborative document platforms, and social media can encourage student interaction and participation inside and outside the classroom. This enhances communication between students and teachers and creates a learning community where students can share ideas, provide peer feedback, and work together on projects. Such collaborative experiences are invaluable in helping students develop communication and teamwork skills, which are crucial in academic and professional settings.

Factors Contributing to the Disconnect

The disconnect between student and educator perspectives on practical technology usage can be attributed to various factors. Inefficient methods for technology implementation contribute to this disconnect, including using technology based on perceived skills and beliefs (Tondeur et al., 2017), opting for technology tools that are easiest for students to use (Beckman et al., 2014), and prioritizing the newest technology without considering more effective alternatives (Bulman & Fairlie, 2016). These inefficient methods may stem from deficiencies in educator training or preparation to utilize technology tools (Kuyatt et al., 2015; Marzilli et al., 2014; Tondeur et al., 2017). Educators' personal beliefs and knowledge, rather than valid academic reasons, can also contribute to the disconnect. They may rely on their beliefs and knowledge to make decisions about technology integration (Li et al., 2015; Tondeur et al., 2017; Venkatesh et al., 2014). Additionally, educators may not keep up with "best practices" found in current literature, leading them to continue using ineffective practices like mandatory discussion boards (AlJeraisy et al., 2015; Venkatesh et al., 2014). Lack of evidence of pedagogical success or value and insufficient skills can further hinder educators' adoption and utilization of technology (Reid, 2014; Carver, 2016).

The costs of technology and a lack of resources are commonly cited reasons why proposed solutions are not being implemented (Gosper et al., 2011; June et al., 2014; Shifflet & Weilbacher, 2015; Tondeur et al., 2017). Educators often express concerns about the availability and affordability of technology and the need for adequate training and support (Carver, 2016;

Sorrells, 2009). Furthermore, lack of interest in learning innovative technology tools and limited time also contribute to the disconnect between student and educator perspectives (Beggs, 2000; Sorrells, 2009). Generational differences between active students, who are more technology-literate, and their instructors can also create a disconnect in ineffective technology usage (Monk et al., 2015). Educators' use of ineffective technological practices, such as mandatory discussion boards, highlights the need to enhance their knowledge and understanding of effective technology integration (AlJeraisy et al., 2015). Furthermore, educators need to gain more skills in utilizing technology to ensure adequate professional development opportunities (Carver, 2016).

Limited support at the administrative level is another factor contributing to the disconnect. Administrators often need more guidance and support for technology integration, which hinders effective implementation (Claro et al., 2017; Durff, 2017; Williams, 2017). Administrators must be more involved and provide leadership in technology usage, even if they need a greater understanding of specific technologies (Claro et al., 2017). Collaborative efforts involving professional development, peer-to-peer support, access to information and resources, and encouragement of technology use within instruction are essential for bridging the gap between student and educator perspectives (Durff, 2017; Villarreal, 2019; Gürfidan & Koç, 2016; Williams, 2017). Addressing these factors and promoting a collaborative approach can help alleviate the disconnect between student and educator perspectives on practical technology usage, ultimately leading to more successful integration and enhanced learning outcomes.

Implications for Teaching and Learning

The disconnect between student and educator perspectives on effective technology usage has significant implications for teaching and learning. Research has shown that effective technology integration can positively impact student performance (Bragdon & Dowler, 2016; Henderson et al., 2017; Rashid & Asghar, 2016). For instance, studies have demonstrated that students with access to individual laptops achieved significantly higher scores than those without laptops, even though their grades within specific courses were not significantly different (Gulek & Demirtas, 2005). Augmented Reality on mobile devices has also been found to enhance motivation and improve academic achievement among engineering students (Fonseca et al.,

2014). Similarly, technology devices, such as laptops and cell phones, have been associated with increased student achievement in physiology courses (Al-Hariri & Al-Hattami, 2016).

When combined with appropriate teaching strategies, effective technology usage has been shown to positively influence student achievement and performance (Ainin et al., 2015; Bragdon & Dowler, 2016; Grinager, 2008; Schacter, 1999). However, it is essential to note that the definition of effective technology usage may vary among studies, and ineffective technology usage has been linked to lower GPAs (Henderson et al., 2017; Karpinski et al., 2013; Rashid & Asghar, 2016). Therefore, educators must understand and implement effective technology integration strategies to maximize its potential benefits for student learning outcomes. Unfortunately, the proposed solutions for building educator competencies in practical technology usage are often not fully implemented (Gosper et al., 2011; June et al., 2014; Shifflet & Weilbacher, 2015; Tondeur et al., 2017). This lack of implementation perpetuates the disconnect between student and educator perspectives. It is essential for educators to proactively engage in professional development opportunities and stay abreast of best practices in technology integration to ensure effective teaching and learning experiences.

Furthermore, it is essential to recognize that technology does not inherently enhance pedagogy; its impact depends on how it is used (Bragdon & Dowler, 2016; Georgina & Olson, 2008; Grinager, 2008). Educators must adopt evidence-based instructional strategies that leverage technology to facilitate active learning, collaboration, critical thinking, and problem-solving skills among students. By aligning technology usage with effective teaching practices, educators can bridge the gap between student and educator perspectives and create more meaningful and engaging learning experiences. The disconnect between student and educator perspectives on effective technology usage has implications for teaching and learning. By embracing effective technology integration strategies, educators can harness the potential of technology to enhance student performance and achievement. This requires ongoing professional development, a commitment to evidence-based instructional practices, and a deep understanding of how technology can be leveraged to support and enrich the learning process.

Effectively integrating technology in the classroom has its challenges. One of the main challenges in integrating technology into the classroom is ensuring equitable access for all students. While some students may have personal devices such as laptops and smartphones,

others may have different access levels, leading to a digital divide that can affect learning outcomes (Alzahrani & O'Toole, 2017; Kurtcu, 2017). Schools can address this issue by investing in school-wide technology resources, such as computer labs, classroom tablets, or a loaner program that allows students to borrow devices for academic use. By providing these resources, schools can ensure that all students benefit from technology-enhanced learning. Another challenge is the potential for technology to be used in a way that detracts from learning rather than enhances it (Imran et al., 2020; Schacter, 1999). For example, students may be tempted to use devices for non-academic purposes during class, such as social media or gaming, which can distract from the learning process. Educators can address this by setting clear expectations for technology use in the classroom, incorporating digital citizenship lessons into the curriculum, and using monitoring tools to keep students on task. Additionally, educators can design lessons that actively engage students with technology, such as interactive simulations, collaborative projects, and online discussions, making it less likely for students to become distracted.

Despite these challenges, the benefits of technology in the classroom are significant. Technology can enhance student engagement by making learning more interactive and visually appealing. For example, multimedia presentations, educational videos, and interactive whiteboards can capture students' attention and make complex concepts more accessible. Furthermore, technology can support differentiated instruction by providing students with various tools and resources that cater to different learning styles and needs. For instance, visual learners can benefit from video tutorials, auditory learners from podcasts, and kinesthetic learners from interactive simulations. In addition to improving student engagement, technology can facilitate more effective communication and collaboration among students and between students and teachers. Online platforms, such as learning management systems (LMS), allow students to access course materials, submit assignments, and receive real-time teacher feedback. Collaborative tools like Google Docs or Microsoft Teams enable students to collaborate on projects regardless of physical location, fostering teamwork and problem-solving skills. These tools also provide opportunities for students to receive timely support from their peers and instructors, which can enhance their learning experience.

Finally, technology in the classroom can provide valuable data that educators can use to inform their teaching practices. Through tools like learning analytics and digital assessments, teachers can track student progress, identify areas where students struggle, and adjust their instruction accordingly. This data-driven approach allows educators to provide more personalized support to students, ultimately leading to improved learning outcomes.

Bridging the Gap: Recommendations and Strategies

Several recommendations and strategies can be implemented to bridge the gap between the disconnect of students and educators on effective technology usage. First and foremost, it is crucial to invest in professional development opportunities for educators to enhance their technology usage skills. Many educators may need to be encouraged or provided with the necessary support to seek training in this area. By offering incentives and creating a culture that values continuous learning, educators can be motivated to improve their technology competencies (Vaughan & Mertler, 2020). Professional development programs should focus on building educator competencies, as training and experience significantly influence technology usage (Kuyatt et al., 2015; Marzilli et al., 2014; Tondeur et al., 2017). Training sessions should address technology usage related to course outcomes, syllabus design, and other content. This approach helps educators avoid inefficient implementation methods and ensures that technology aligns with instructional goals (Holzweiss et al., 2014; Jaggars & Xu, 2016; Lowerison et al., 2006). Providing educators with updated literature and resources is essential to prevent outdated practices and promote effective technology integration (AlJeraisy et al., 2015).

When providing professional development, one-on-one training and small group sessions with department members can be beneficial (Georgina & Olson, 2008). Additionally, administrative support plays a crucial role in implementing educational technology. Developing an institutional culture that embraces technological advancements and adapts to meet student needs is vital (Beckman et al., 2014; Kuyatt et al., 2015; Rockoff, 2004). Diversifying the quantity of technology tools available can also assist in technology implementation, as different tools cater to diverse student learning styles and schedules (Gosper et al., 2011; June et al., 2014; Kuh & Hu, 2001; Sana et al., 2013).

To bridge the gap, it is necessary to consider student perceptions of effective technology usage. Students can provide valuable insights into their preferences and experiences with

technology in the classroom (Neier & Zayer, 2015). By incorporating student perspectives, educators can better understand how technology can positively impact student performance and engagement (Henderson et al., 2017). Moreover, students should be surveyed regularly to gather feedback on what they consider practical technology usage and how it impacts their learning (Neier & Zayer, 2015). Student feedback can inform educators' technological approaches in real-time, leading to continuous improvement (Chang et al., 2015).

Active learning approaches and various assessments can enhance student engagement and performance. Active learning methods, such as problem-based assessments and collaborative activities, have improved student retention, critical thinking skills, and motivation (Bevan et al., 2014; Freeman et al., 2014; White et al., 2014). Instructional methods must align with course objectives and effectively integrate technology to enhance student cognition and understanding (Koedinger et al., 2013; Richey & Nokes-Malach, 2015). Differentiation of instruction through professional development can enable educators to adapt their instructional approaches and better meet the needs of diverse learners (Guskey, 2002).

Access to technology is a fundamental requirement for practical technology usage. Institutions should invest in providing all students with access to the internet and necessary technology tools, particularly marginalized individuals who may face barriers to access (Alzahrani & O'Toole, 2017; Kurtcu, 2017). Policymakers and administrators should allocate resources to ensure students have consistent access to technology through campus facilities or loan programs. Achieving equity in technology access helps level the playing field and ensures all students benefit from technology-enhanced learning experiences. By implementing these recommendations and strategies, educational institutions can bridge the gap between students and educators on practical technology usage. With improved technology competencies, educators can create engaging learning environments that empower students and better prepare them for the challenges of the digital age.

In addition to addressing these broader institutional strategies, it is essential to focus on how technology can directly improve classroom instruction. One of the most significant advantages of technology is its ability to facilitate collaborative learning. Tools like Google Docs, Microsoft Teams, and educational platforms like Edmodo and Canvas allow students to work together on projects in real time, regardless of their physical location. This collaboration

fosters teamwork and communication skills and enables students to learn from one another. For example, in an undergraduate history course, students might use a shared document to compile research on different aspects of a historical event, with each student contributing their findings. This collaborative approach allows students to engage more deeply with the content and benefit from their peers' perspectives, ultimately leading to a richer understanding of the subject matter.

Moreover, technology provides educators with the tools to offer personalized feedback, which is crucial for student growth. Learning management systems (LMS) like Moodle, Blackboard, or Schoology allow teachers to track student progress, identify areas where individual students may be struggling, and provide targeted feedback. For instance, in an undergraduate Statistics class, if a student consistently struggles with a particular problem, the teacher can use data from the LMS to offer personalized resources or tutorials to help the student improve. This tailored feedback can be more effective than generic comments, as it addresses the specific needs of each student. Tools like automated quizzes and formative assessments can provide immediate feedback, allowing students to correct mistakes and learn in real-time, reinforcing learning and improving retention.

Furthermore, technology can enhance classroom instruction by offering diverse instructional materials that cater to different learning styles. For example, visual learners can benefit from interactive simulations and videos that illustrate complex concepts, while auditory learners might find podcasts and audio lectures more engaging. Kinesthetic learners can benefit from using technology tools that involve interactive elements, such as virtual labs or educational games. By providing various instructional materials, educators can ensure that all students, regardless of their preferred learning style, can engage with the content in a way that makes sense to them. The more in sync students and educators are on what effective technologies positively impact student learning, the more strategies for success can be implemented.

Conclusion

In conclusion, the disconnect between student and educator perspectives on effective technology usage in education is a significant challenge that needs to be addressed. Technology can potentially enhance student learning and performance, but the disconnect can limit its benefits and impede student achievement. Understanding and bridging this gap is crucial for creating a more productive and impactful learning environment. This article highlights several

factors that contribute to the disconnect. Inefficient technology implementation methods, educators' personal beliefs and knowledge, limited resources and support, and generational differences between students and educators are some critical factors identified. These factors can hinder effective technology integration and perpetuate the disconnect.

To bridge the gap, it is recommended that educators invest in professional development opportunities, provide institutional support, and foster a culture of continuous learning. Educators should actively seek student feedback to understand their perspectives and expectations better. Educators can select and integrate technology tools more effectively by considering student preferences, needs, and experiences. Collaboration and communication between students and educators are vital for aligning their perspectives and maximizing the benefits of technology integration.

Evidence-based instructional strategies should also be adopted to leverage technology for active learning, collaboration, critical thinking, and problem-solving. Educators should stay informed about current research and best practices in technology integration to ensure effective teaching and learning experiences. By implementing these recommendations and strategies, educators can bridge the gap between student and educator perspectives on effective technology usage. This collaborative approach will create a more engaging and student-centered learning environment, ultimately leading to improved student performance and achievement.

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