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Beyond the Screen: Student's Voices on eLearning

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A B S T R A C T

This study aims to investigate students' digital proficiency and attitudes towards eLearning technologies at SMAN 2 Tanjungpinang. Using a quantitative descriptive method, data were gathered through a structured questionnaire distributed to 45 students. The survey focused on their use of devices, applications, and software related to eLearning, assessing both familiarity and confidence. Results indicate that while students generally view eLearning technologies positively—especially those that are user-friendly and accessible—their digital proficiency varies widely depending on the tool. Smartphones emerged as the most confidently used device, with 66.7% of students identifying as advanced users, likely due to their daily integration and ease of use. In contrast, only 6.8% reported advanced skills in using computers, and just 9.1% for tablets, suggesting a need for greater focus on these essential academic tools. Similarly, students demonstrated strong skills in general digital tools like search engines, but much lower proficiency with educational apps such as Duolingo and quizziz, where 62.2% were beginners. While platforms like TikTok, Instagram, and Google saw high user confidence, engagement with formal educational tools and productivity platforms was limited. These findings highlight a clear gap in academic digital literacy and emphasize the need for targeted digital education initiatives to better prepare students for technology-integrated learning environments.

Keywords: *Students' Perception, Elearning Technologies, Digital Proficiency*

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INTRODUCTION

The pandemic made it tough for teachers and students to learn effectively, as schools couldn't provide the education students needed (Iswanto et al., (2024). This challenge led to the widespread and transformative integration of eLearning technologies into modern education, fundamentally changing how knowledge is delivered and received. These technologies offer a range of benefits, including flexibility, accessibility, and a wealth of interactive learning resources. Through online platforms, students can learn at their own pace, revisit material as needed, and access content from virtually any location. For educators, eLearning provides new methods for content delivery, assessment, and student engagement. As educational institutions continue to invest in and expand their use of these tools, understanding how students perceive and interact with them is critical for ensuring their effectiveness and long-term sustainability (Al-Fraihat, Joy, & Sinclair, 2020; Dhawan, 2020).

One of the most compelling arguments for adopting eLearning is the flexibility it affords. Unlike traditional classroom environments, eLearning platforms allow students to manage their time effectively, which is particularly advantageous for non-traditional learners, such as working professionals, parents, or those with other significant commitments. This flexibility not only supports time management but also enables a self-paced learning experience, allowing students to absorb information more thoroughly and progress according to their individual capabilities. However, flexibility alone does not guarantee success. For eLearning platforms to truly enhance learning, they must be intuitively designed and accessible. A user-friendly interface significantly contributes to a positive learning experience, while complex or

poorly designed systems can lead to frustration and disengagement (Almaiah, Al-Khasawneh, & Althunibat, 2020).

Several studies support the integration of e-learning in education, highlighting students' generally positive attitudes toward digital technologies. For instance, Štemberger and Konrad (2021) found that Slovenian student teachers predominantly viewed the use of digital technologies in education positively, although they rated their own proficiency as relatively low. Notably, their attitudes were shown to be a significant predictor of their actual skill level in using these technologies. Similarly, Rhema and Miliszewska (2014) reported that Libyan engineering students from both urban and rural areas had favorable perceptions of technology-supported learning and recognized its advantages, further supporting the potential of e-learning across different educational and cultural contexts.

Moreover, while eLearning offers convenience, it often lacks the immediacy and spontaneity of face-to-face interactions that characterize traditional classrooms. This shift demands greater self-motivation and discipline from learners. Consequently, student engagement emerges as a critical challenge in online education. Research emphasizes that the presence of interactive components—such as discussion boards, quizzes, multimedia content, and real-time feedback—plays a significant role in maintaining student interest and motivation (Martin & Bolliger, 2018; Banna et al., 2015).

Personalization is another significant advantage of eLearning technologies. Advanced platforms often utilize data-driven algorithms to tailor educational content based on students' performance and preferences. This personalization can address individual learning gaps and optimize academic outcomes by allowing students to focus more intensively on areas where they need improvement. However, the success of these adaptive systems depends heavily on students' willingness to engage with the platform and their perception of the content's relevance and usability. If students find the material irrelevant, outdated, or overly complex, they may disengage or underutilize available tools. Research has demonstrated that students' perceptions of the usefulness and ease of use of Learning Management Systems (LMS) significantly influence their academic engagement and performance (Liaw & Huang, 2018).

Despite these advantages, eLearning environments are not without challenges. Technical issues, such as unreliable internet access, lack of digital literacy, or outdated hardware, can hinder student participation. Equally important are the psychological and motivational barriers—feelings of isolation, lack of structure, and decreased motivation are commonly reported among online learners. To address these concerns, institutions must adopt a holistic approach that encompasses not only technical support but also robust instructional design and a proactive support system. The development of digital readiness and the promotion of academic engagement are key mediating factors that contribute to students' academic success in virtual learning environments (Crawford et al., 2020)

Empirical research further underscores the importance of student perceptions in evaluating the effectiveness of eLearning systems. According to Al-Fraihat et al. (2020), students' perceptions offer valuable insights into the usability, relevance, and overall impact of eLearning platforms in educational settings. Moreover, there is a growing trend toward positive perceptions and acceptance of both e-learning platforms and digital assessment tools in higher education, which facilitate flexible, interactive, and timely evaluation of student learning (Heil & Ifenthaler, 2023; Martin, Wang, & Sadaf, 2020).In summary, as eLearning technologies become increasingly embedded within higher education, ongoing research into student perceptions and experiences is crucial. These insights not only inform the design and implementation of more effective digital learning environments but also ensure that educational innovations are responsive to the evolving needs of diverse learners. By addressing both the opportunities and challenges associated with eLearning, educational institutions can foster more inclusive, engaging, and successful learning experiences for all students.

E-learning refers to the process of learning through the internet, which can occur in synchronous (real-time) or asynchronous (self-paced) formats, allowing learners to connect with instructors and peers from any location. This flexibility and accessibility make e-learning

a valuable alternative to traditional classroom settings (Singh & Thurman, 2019). E-learning platforms have become widely recognized as effective tools for knowledge transfer among academics and professionals. The use of various devices such as smartphones, laptops, and tablets further enhances the practicality of e-learning environments, enabling learners to engage with content, participate in discussions, and complete assignments remotely (Reyad et al., 2021). Particularly during crises like the COVID-19 pandemic, e-learning has played a crucial role in maintaining educational continuity worldwide (Dhawan, 2020).

One of the key advantages of e-learning is its ability to overcome geographical and physical barriers, making education accessible to a global audience. The rapid pace of globalization and technological advancement has shifted education from traditional face-to-face methods to more dynamic, technology-driven approaches that emphasize learner-centered and interactive experiences (Almaiah, Al-Khasawneh, & Althunibat, 2020; Yakubu & Dasuki, 2018). This transformation highlights the growing importance of e-learning as a modern and flexible tool that reshapes how knowledge is shared and learned globally, moving beyond the conventional "chalk and talk" paradigm to foster more engaging and personalized learning environments.

The effectiveness of e-learning is not solely contingent on its technological infrastructure but also significantly influenced by pedagogical approaches tailored to the online environment. Research indicates that successful e-learning initiatives often integrate active learning strategies, collaborative activities, and timely feedback mechanisms to foster deeper engagement and knowledge retention (Means et al., 2018). The way online learning materials are designed is critical for both student understanding and their drive to learn. Learning is significantly enhanced, and various learning styles are accommodated, when content is structured effectively and includes multimedia and interactive practice. The ability to track learner progress and provide personalized learning paths further differentiates e-learning from traditional methods, allowing for more adaptive and individualized educational journeys.

Furthermore, the integration of emerging technologies like Artificial Intelligence (AI) and Virtual Reality (VR) is poised to revolutionize the e-learning landscape. AI-powered tools can personalize learning experiences, provide intelligent tutoring, and automate assessment, thereby optimizing learning outcomes and reducing instructor workload (Hwang & Tu, 2021). Through Virtual Reality (VR) and Augmented Reality (AR), educators can develop learning environments that are both immersive and experiential. This allows learners to rehearse complex skills and simulate real-world situations in a safe, controlled space, preparing them effectively for practical application. These technological advancements promise to make e-learning even more engaging, effective, and accessible, bridging the gap between theoretical knowledge and practical application.

Challenges inherent in e-learning, despite its numerous benefits, require close consideration. For instance, the 'digital divide,' characterized by uneven access to stable internet and adequate devices, has the potential to intensify educational disparities, especially in developing regions. Moreover, concerns regarding student motivation, self-regulation, and potential feelings of isolation in online environments require deliberate pedagogical strategies to mitigate. Effective e-learning programs often incorporate robust support systems, including dedicated online tutors, peer-to-peer interaction opportunities, and mental health resources, to ensure student well-being and engagement (Bao, 2020). Addressing these challenges is crucial for maximizing the equitable and effective implementation of e-learning solutions globally.

The shift towards e-learning also necessitates a re-evaluation of assessment strategies. Traditional summative assessments may not fully capture the breadth of learning that occurs in online environments, which often prioritize continuous engagement and collaborative projects. In e-learning, formative assessments, peer evaluations, and authentic assessments that replicate real-world tasks are becoming increasingly important. These methods offer a more thorough understanding of how students are learning and developing. The development of robust proctoring technologies and secure online examination platforms is also critical to

maintaining academic integrity in remote learning settings. This evolution in assessment practices is essential to ensure the credibility and validity of qualifications obtained through e-learning.

Finally, the long-term sustainability and scalability of e-learning initiatives are increasingly becoming a focus of educational institutions and policymakers. The initial investment in technology infrastructure and faculty training can be substantial, requiring strategic planning and resource allocation (Almaiah et al., 2020). However, the potential for wider reach and reduced operational costs in the long run makes e-learning a financially viable and environmentally sustainable option for delivering education. Furthermore, the development of open educational resources (OERs) and collaborative learning networks can further enhance the cost-effectiveness and accessibility of e-learning, promoting a more inclusive and equitable global educational landscape (Hilton, 2017).

METHOD

The research employed a quantitative descriptive design to explore students' perceptions of using eLearning technologies at SMAN 2 Tanjungpinang. The study aimed to identify patterns in usage, familiarity, and perceived effectiveness of digital learning tools such as Google Classroom, Zoom, educational apps, and online platforms. A total of 45 students participated in the study, selected through purposive sampling based on their prior exposure to eLearning technologies. Data collection was carried out using a structured questionnaire consisting of closed-ended questions, including Likert scale designed to assess various aspects of students' engagement with eLearning tools. The questionnaire was adapted from existing literature and validated through expert review to ensure content relevance and clarity. Distribution of the questionnaire took place online during class hours, with approval from school authorities and informed consent from students, ensuring confidentiality and voluntary participation. The data gathered were analyzed using descriptive statistics, including frequencies, and percentages. This analysis provided insights into students' levels of proficiency, frequency of use, and overall applications toward eLearning technologies. Ethical considerations were upheld throughout the research process by maintaining participant anonymity and using the data strictly for academic purposes.

FINDINGS AND DISCUSSION

The first question explored students' perceptions of their experience and proficiency with various technologies. The data revealed varying digital proficiency levels, highlighting differences in device familiarity. A significant portion of students identified as beginners (45.5%) or intermediate users (47.7%) of computers or laptops, with only 6.8% advanced users, indicating a gap in higher-order digital skills and the need for enhanced digital literacy training (Fauzan, Arifin, Lubis, & Firdaus, 2022). Similarly, iPad users showed limited advanced proficiency, with most at beginner or intermediate levels, suggesting limited deep engagement with tablet technologies. In contrast, smartphone usage demonstrated a different pattern: only 4.4% beginners and 66.7% advanced users, consistent with findings that smartphones are the most accessible and frequently used devices among students due to their multifunctionality and ease of use (Siddiq, Hatlevik, & Scherer, 2019). This disparity highlights a digital skills gap not only in access but also in meaningful application, underscoring the importance of targeted digital education strategies to foster competence with educational technologies critical for academic success and digital citizenship (Riyanti, 2023). The following is the results of questionnaire distributed to the participants:

Table 1. Type of Devices Students' Use

No.	Type of digital technology	Level		
		Beginner	Medium	Advanced
1.	Computer/laptop	20(45,5%)	21(47,7%)	3(6,8%)
2.	Ipad	20(45,5%)	20(45,5%)	4(9,1%)
3.	Smartphone	2(4,4%)	13(28,9%)	30(66,7%)

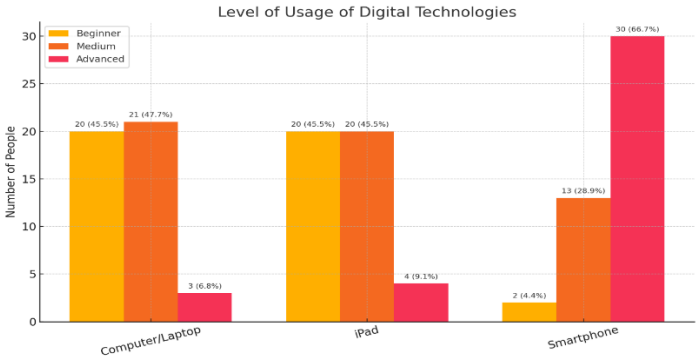

Figure 1. Level of Usage of Digital Technologies

The chart presents students' self-assessed proficiency levels in using different types of digital technology, namely computers/laptops, iPads, and smartphones. The results show that for computers or laptops, a majority of students rate themselves as either beginners (45.5%) or at a medium level (47.7%), while only a small portion (6.8%) consider themselves advanced users. A similar trend is observed with iPads, where 45.5% of students identify as beginners, another 45.5% as medium-level users, and only 9.1% classify themselves as advanced. However, the pattern shifts significantly when it comes to smartphone usage. Only 4.4% of the students rate themselves as beginners, while 28.9% consider themselves at a medium level, and a substantial 66.7% claim to be advanced users.

These results suggest that while students are still developing their skills with computers and tablets, they are far more confident and proficient in using smartphones. This may reflect the ubiquity and intuitive design of smartphones, which are more frequently used in daily life compared to other digital devices. The data indicates a potential need for targeted digital literacy training, particularly in using computers and tablets for educational purposes.

Table 2. Software Product/Applications and Students' Use

No.	Software product/Applications and services	Level		
		Beginner	Medium	Advanced
1.	Text Editors (Grammarly, Chatgpt, Gemini, etc.)	6(13,3%)	33(73,3%)	6(13,3%)
2.	Internet Usage (Google search)	4(8,9%)	11(24,4%)	30(66,7%)
3.	Mobile Apps (Elsa, duolinggo, etc)	28(62,2%)	12(26,7%)	5(11,1%)
4.	Learning Spaces (google meet, zoom, google classrom, etc.)	10(22,2%)	20(44,4%)	15(33.3%)

The above table is further presented in the following chart for clearer picture.

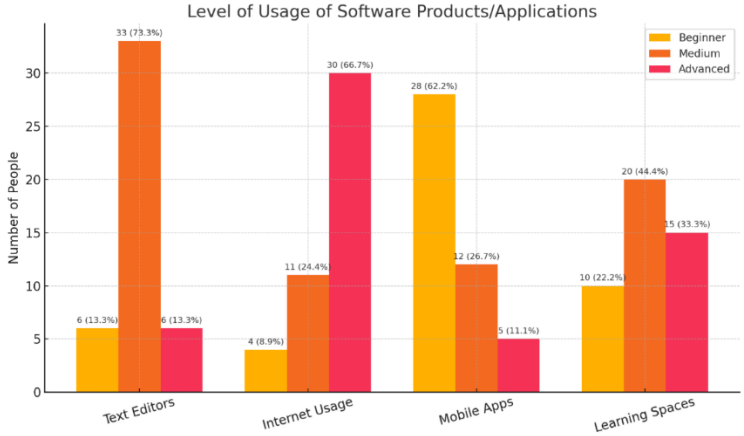

Figure 2. Level of Usage of Software Products/Applications

The diagram shows that software product usage reveals diverse levels of user proficiency, reflecting varying degrees of digital engagement and experience. A large majority of respondents (73.3%) reported medium-level proficiency with text editors like Grammarly, ChatGPT, and Gemini, indicating a growing familiarity with AI-powered writing tools, though only a small percentage (13.3%) feel confident at an advanced level. In contrast, internet usage, particularly through tools like Google Search, sees a significant majority (66.7%) at an advanced level, highlighting how routine search engine use has become embedded in users' digital behavior. Conversely, mobile learning apps such as Elsa and Duolingo show the highest beginner rate (62.2%), suggesting a gap in user adoption or comfort, possibly due to unfamiliarity with educational technologies or lack of integration in formal learning contexts. Regarding online learning platforms such as Google Meet, Zoom, and Google Classroom, a more balanced distribution emerges: 44.4% at medium, 33.3% at advanced, and 22.2% at beginner level, reflecting increased exposure due to the pandemic-driven shift toward online learning (Dhawan, 2020). These findings suggest that while general internet and communication tools have achieved widespread, confident usage, specialized educational applications may still require targeted support and training to enhance user competence.

Table 3. Applications Students Use to Gain Knowledge and Information

No.	Applications to get knowledge and information	Level				
		In a very small degree	In a small degree	Moderately	In a great degree	In a very great degree
1.	Audio and/or Video Materials	2 (4,4%)	2 (4,4%)	16 (35,6%)	12 (26,7%)	13 (28,9%)
2.	Educational Games	5 (11,1%)	5 (11,1%)	18 (40%)	13 (28,9%)	4 (8,9%)
3.	Wikipedia	9 (20%)	6 (13,3%)	15 (33,3%)	12 (26,7)	3 (6,7)
4.	Blogs	11 (25,6%)	15 (34,9%)	8 (18,6%)	6 (14%)	3 (7%)
5.	On-line Courses (Ruang Guru)	10 (22,2%)	9 (20%)	12 (26,7%)	8 (17,8%)	6 (13,3%)
6.	E-mail	11 (25%)	9 (20,5%)	12 (27,3%)	6 (13,6%)	6 (13,6%)
7.	Facebook	24 (53,3%)	11 (24,4%)	4 (8,9%)	5 (11,1%)	1 (2,2%)
8.	Instagram	3 (6,7%)	1 (2,2%)	2 (4,4%)	10 (22,2%)	29 (64,4%)
9.	Google	2 (4,4%)	1 (2,2%)	1 (2,2%)	9 (20%)	32 (71,1%)
10	Telegram	21 (46,7%)	11 (24,4%)	6 (13,3%)	6 (13,3%)	1 (2,2%)
11.	Tiktok	4 (8,9%)	3 (6,7%)	1 (2,2%)	5 (11,1%)	32 (71,1%)

The above table is further presented in the following chart for clearer picture.

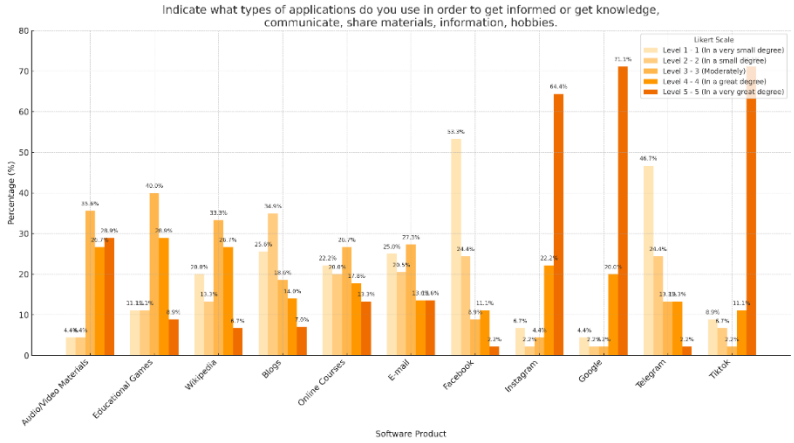

Figure 3. Apps Students Use for Knowledge and Sharing

The data reveal significant variability in users' proficiency and familiarity with a wide range of software products, reflecting differences in both purpose and popularity. Tools like Google and TikTok dominate in terms of advanced user engagement, with 71.1% of respondents rating themselves at level 5, suggesting that highly intuitive platforms with wide-reaching utility and entertainment appeal drive higher adoption and skill levels (Auxier & Anderson, 2021). Instagram also shows high proficiency, with 64.4% at the highest level, further supporting the trend of users being more adept with social and visual-based platforms.

In contrast, platforms with educational intent, such as educational games, online courses like Ruang Guru, and email, tend to show more even distributions across levels, with fewer users rating themselves as highly proficient—perhaps indicating limited formal training or less frequent use (van Deursen & van Dijk, 2014). Wikipedia usage peaks at a moderate level (33.3% at level 3), showing its role as a supplementary resource rather than a primary tool. Telegram and Facebook show notable beginner usage (46.7% and 53.3% at level 1 respectively),which could reflect generational or regional differences in platform preference (We Are Social, 2023). The relatively lower proficiency in blogs (60.5% at level 1 or 2) also highlights a decline in engagement with long-form content in favor of faster, visual formats. These findings emphasize the importance of aligning digital literacy initiatives with the platforms that users engage with less frequently or struggle to navigate, especially in academic or professional settings.

CONCLUSIONS

The findings reveal a significant gap between students' high familiarity with everyday digital tools like smartphones, Google, and social media, and their lower proficiency with educational technologies such as computers, tablets, learning apps, and online platforms. While digital access is widespread, students' ability to use technology meaningfully for academic purposes remains limited. Although they demonstrate strong skills with smartphones (66.7% advanced) and general tools like Google Search (66.7% advanced), their proficiency declines with computers and tablets (45.5%–47.7% beginner to intermediate), reflecting a lack of engagement with devices essential for academic and professional work. Similarly, while students show medium proficiency with AI-powered writing tools like Grammarly and ChatGPT (73.3%), their use of specialized educational apps such as Duolingo and Elsa remains low (62.2% beginner), indicating limited integration and user comfort. Platforms like TikTok and Instagram dominate due to their intuitive and entertainment-driven nature, whereas educational tools see less proficient use. This disparity underscores a critical "digital usage gap," where students have access but lack the skills to leverage technology effectively for learning. Addressing this requires targeted digital literacy programs and structured training that promote deeper engagement with academic technologies, preparing students not only for improved academic performance but also for participation in the digital economy. Ultimately, bridging this gap demands a collaborative approach among educators, policymakers, and developers to build inclusive and engaging environments that cultivate comprehensive digital competencies essential for educational and professional success.

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