

ENHANCING ENGLISH LEARNING: SELF-DETERMINATION IN INDONESIA DIGITAL CLASSROOMS

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Abstract

This study explored the experiences of students with technology-integrated English language instruction at two Indonesian universities, Universitas Borneo Tarakan (UBT) and Universitas Sawyerigading Makassar (UNSA). The primary aim was to understand the influence of perceived autonomy, competence, relatedness, and motivation levels on English language learning outcomes. Utilizing a mixed-methods approach that combined survey data and thematic analysis of interviews, we found that students generally reported high levels of these factors. Minor differences were observed between UBT and UNSA in terms of perceived autonomy and competence-relatedness. Positive correlations were identified between these factors and improved performance in English language learning; for example, autonomy positively correlated with English learning outcomes ($r = 0.60^*$), as did competence ($r = 0.65^*$), relatedness ($r = 0.62^*$), and motivation levels ($r = 0.70^*$). These findings highlight the importance of fostering learners' sense of autonomy, competence building, and relatedness in technology-enhanced instruction settings to promote intrinsic motivation according to Self-Determination Theory (SDT). Further research is recommended to explore other potential influencing factors such as individual attitudes towards technology or external factors like teaching quality or course design.

Keywords: English language learning, Self-Determination, Digital Classroom, Autonomy, Competence, Relatedness

Introduction

Integrating digital technology in education, often called EdTech, has created a paradigm shift in teaching and learning practices across diverse disciplines. English language instruction is a field that this technological revolution has profoundly impacted. Universities worldwide are incorporating technology into their English

language curricula in the current digital era to foster a more engaging and effective learning environment (Farsawang & Songkram, 2023; Hockly & Dudeney, 2018). This trend is also evident in Indonesia, where institutions like Universitas Borneo Tarakan (a public university) and Universitas Sawyerigading Makassar (a private university) have embraced technology-integrated teaching methods. Some other institution are also integrated it in community service (Ali, 2021; Hasanah, 2022). However, amidst this transformative shift lies an area that demands further exploration the role of self-determination factors in enhancing English language learning outcomes within these digitally enhanced environments.

Self-determination theory (SDT), a psychological framework proposed by (Ryan & Deci, 2017), suggests that human motivation and personal growth are intrinsically linked to three basic psychological needs: autonomy (the need to control one's actions), competence (the need to master tasks), and relatedness (the need for social interaction). Numerous studies conducted within traditional classroom-based education settings have confirmed SDT's effectiveness in fostering student motivation, leading to improved academic performance (Alrabai, 2021; Rahayu et al., 2022). Nevertheless, there needs to be more literature investigating how SDT principles apply within the context of technology-integrated English language education.

In light of these previous studies, a deeper exploration of self-determination theory within digital English language classrooms could yield valuable insights. For instance, (Dahlan et al., 2019) findings about the use of cognitive and metacognitive strategies by high performing students might be seen in a new light when examined through the lens of self-determination theory. Could these students' sense of autonomy and competence lead them to employ more varied and sophisticated learning strategies? Furthermore, if so, how can digital learning environments be designed to foster this kind of self-directed learning? Moreover, (Wulandari et al., 2018) research on psychological barriers to speaking English suggests another promising avenue for investigation. Fostering a sense of autonomy, competence, and relatedness in digital classrooms could help students overcome these barriers . Autonomy supportive technology might allow learners to choose tasks suited to their

level or interest area, reducing anxiety associated with speaking exercises. Digital platforms could also provide instant feedback on performance, enhancing learners' sense of competence (Noviasmy et al., 2023). Lastly, Sari (2022) who studies on classroom interaction patterns raises exciting questions about how relatedness, the third key component in SDT, might play out in a digital context. The ability for learners to interact with teachers and peers is an essential part of the language acquisition process (Fitriani et al., 2019; Rahman et al., 2022); therefore, understanding how these interactions can be facilitated effectively within digital classrooms is crucial. Taken together, these studies point towards the potential benefits and challenges of applying self-determination theory within technology-integrated English language education. By leveraging the principles of SDT in designing digital curricula and instructional strategies, we may enhance learner motivation, leading to improved linguistic outcomes.

This research gap becomes critically important when considering the unique challenges associated with online or digital classrooms. A common issue reported by students engaged in online learning is a sense of isolation due to limited personal interaction with peers and instructors (Bawa, 2016; Martin & Bolliger, 2018; Mas'ud et al., 2019). It can undermine students' feelings of relatedness, one key component within SDT, thus affecting their motivation levels and overall learning outcomes (Van Blankenstein et al., 2019). Therefore, it becomes crucial for educators at institutions like Universitas Borneo Tarakan and Universitas Sawerigading Makassar to incorporate elements promoting self-determination within their digital classrooms.

Addressing this research gap forms the core aim of our study. We investigate how integrating self-determination factors can enhance English language learning outcomes within technologically rich teaching environments at public institutions like Universitas Borneo Tarakan and private institutions like Universitas Sawerigading Makassar. Our proposition is grounded on the hypothesis that creating an environment that promotes autonomy enables skill development while fostering social connectedness, which will stimulate student motivation, ultimately leading to

enhanced proficiency levels among learners (Han, 2021; N. D. Vega et al., 2023; Wehmeyer et al., 2017)

Our study aligns with recent research trends emphasizing psychological needs alongside pedagogical methods for achieving optimal educational results within digital classrooms (Kahu et al., 2022; Lin et al., 2017; N. De Vega & Nur, 2022). Focusing on SDT principles specifically applied to English Language Instruction conducted through digital platforms across different university settings, we aim to fill existing gaps and provide valuable insights for educators seeking evidence-based strategies to improve learner outcomes. In conclusion, our study bridges a significant void in existing literature exploring the relationship between self-determination theory application technology and integrated English Language Instruction across different university contexts, thereby contributing towards evolving discourse surrounding best practices for implementing effective EdTech solutions to improve learner outcomes.

Method

This study aimed to explore the influence of self-determination factors on English language learning outcomes within technology-integrated environments. It was conducted at two Indonesian universities: Universitas Borneo Tarakan (public) and Universitas Sawyerigading Makassar (private). A mixed-methods approach was adopted, allowing for a comprehensive understanding of the research problem (J. Creswell, 2014).

The target population for this study comprised students enrolled in English language courses at both universities. These institutions were selected due to their established use of digital technology in English language instruction. A stratified random sampling technique was employed to ensure that the sample accurately represented the larger student population at both universities. In total, 300 students (150 from each university) participated in the online survey, and 30 (15 from each university) were selected for semi-structured interviews.

The research began with administering an online survey to assess students' perceived levels of autonomy, competence, and relatedness within their digital classrooms. It also measured their motivation levels and English language learning

outcomes using scales adapted from previous studies (Reeve & Cheon, 2021). Following this quantitative data collection phase, semi-structured interviews were conducted with a smaller group of participants. These interviews sought deeper insights into students' experiences with technology-integrated English language instruction and its perceived impact on self-determination factors and learning outcomes (J. W. Creswell & Plano Clark, 2018; Miles et al., 2014).

The collected survey data were statistically analyzed using SPSS software. Descriptive statistics were first computed for all variables under study, followed by inferential statistical analyses such as correlation tests to identify potential relationships between self-determination factors and learning outcomes. For qualitative data gathered through interviews, a thematic analysis followed (Braun & Clarke, 2019) six-phase guide. It involved familiarizing the data through repeated reading, generating initial codes from the data set, searching for themes among codes across all interview transcripts, grouping them accordingly, and reviewing and refining these themes before finally defining and naming them. Throughout this research process ethical considerations were paramount. All participants provided informed consent after being fully briefed about the nature and purpose of the study as well as their right to withdraw at any time without any repercussions. Anonymity was assured by assigning unique identification numbers instead of names in all collected data which was securely stored accessible only by the research team thereby ensuring participant confidentiality.

Results

The findings of this study were derived from both the quantitative survey data and qualitative interview data. The survey data were statistically analyzed using SPSS software, and the interview responses were examined through thematic analysis. Table 1 shows the mean scores and standard deviations for autonomy, competence, relatedness, motivation levels, and English language learning outcomes among students at Universitas Borneo Tarakan (UBT) and Universitas Sawyerigading Makassar (UNSA).

Table 1. Descriptive Statistics for Variables at UBT and UNSA

Variables	UBT (n=150)		UNSA (n=150)	
	Mean	SD	Mean	SD
Autonomy	3.68	0.76	3.59	0.81
Competence	3.72	0.79	3.64	0.85
Relatedness	3.75	0.80	3.67	0.83
Motivation Levels	4.02	0.87	4.00	0.88
English Learning Outcomes	4.05	0.90	4.03	0.91

Descriptive analysis of the survey data revealed that students from Universitas Borneo Tarakan (UBT) and Universitas Sawyerigading Makassar (UNSA) generally reported high autonomy, competence, relatedness, motivation levels, and English language learning outcomes. In terms of perceived autonomy, students at UBT reported slightly higher scores ($M = 3.68$, $SD = .76$) than those at UNSA ($M = 3.59$, $SD = .81$). This suggests that students at UBT felt a moderate to high level of control over their learning process in the digital classroom environment. Regarding competence, again, UBT students scored slightly higher ($M = 3.72$, $SD = .79$) compared to their counterparts at UNSA ($M = 3.64$, $SD = .85$). This indicates that UBT students felt moderately competent in mastering tasks within their digital English language courses. For relatedness or connection with others in the digital learning environment, UBT students also reported slightly higher mean scores ($M=3.75$, $SD=.80$) than UNSA students ($M=3.67$, $SD=.83$). These findings suggest a moderate to high sense of belonging or connection with peers and instructors within the digital classrooms for both groups. Both universities' motivation levels were nearly identical, with a mean score of 4.02 (.87) for UBT and a mean score of 4.00 (.88) for UNSA, indicating that overall motivation toward English language learning was relatively high across both institutions.

Finally, regarding English language learning outcomes, there was very little difference between the two universities, with an average score of 4.05 (.90) for UBT and an average score of 4.03 (.91) for UNSA, suggesting that overall performance or proficiency in English language learning was relatively high across both public private

university settings. In conclusion, these descriptive findings provide valuable insights into how Indonesian university students perceive their autonomy competence relatedness within technology-integrated English language instruction settings, as well as their motivation levels and subsequent learning outcomes (Park & Son, 2022)(Luthfiyyah et al., 2021)

Table 2. Pearson's Correlation Matrix

Variables	Autonomy	Competence	Relatedness	Motivation Levels
Autonomy	1	-	-	-
Competence	.35*	1	-	-
Relatedness	.40*	.45*	1	-
Motivation Levels	.50*	.60*	.55*	-
English Learning Outcomes	.60*	.65*	.62*	.70*

(*) the correlation is statistically significant ($p < .05$)

The correlation matrix provided in Table 2 sheds light on the relationships between the variables in the study. The analysis unveiled several noteworthy findings. Initially, a positive correlation was discerned between autonomy and competence ($r = 0.35$), suggesting that students who perceived higher levels of autonomy in their English language learning also tended to feel more adept at mastering tasks within their digital courses. Additionally, autonomy was positively correlated with relatedness ($r = 0.40$), indicating that students with a heightened sense of autonomy were likely to experience a stronger bond or sense of belonging with peers and instructors in the digital learning environment.

Furthermore, there was a positive correlation between autonomy and motivation levels ($r = 0.50$). It indicated that students who perceived higher levels of autonomy in their learning process also demonstrated higher motivation towards English language learning. In a similar vein, competence exhibited a positive correlation with relatedness ($r = 0.45$) and motivation levels ($r = 0.60$), suggesting that students who felt more proficient at mastering tasks within their digital courses

were likely to form stronger connections with others and exhibit higher motivation towards language learning.

Moreover, relatedness positively correlated with motivation levels ($r = 0.55$). It implied that students who experienced connection or had a sense of belonging within the digital learning environment were likely to have an elevated motivation towards English language learning. Lastly, all variables Autonomy, Competence, Relatedness, and Motivation Levels demonstrated moderate to strong positive correlations ranging from $r=0.60^*$ to $r=0.70^*$ with English Learning Outcomes; this suggested that perceived autonomy, competence, and relatedness, as high motivation levels were associated with improved performance or proficiency outcomes in English language learning.

Based on the thematic analysis of the interviews, students' experiences with technology-integrated English language instruction can be broken down into three main themes: Perceived Autonomy, Competence Building, and Sense of Relatedness.

Regarding Perceived Autonomy, students expressed a sense of control over their learning process enabled by digital tools. For instance, Student A described how they could "pause, replay, and review materials whenever" they wanted. This autonomy in managing their learning aligns with Self-Determination Theory (SDT), which posits that individuals are likelier to engage in personally meaningful activities and feel a sense of ownership. One student shared that "being able to learn at my own pace made me feel more invested in my learning." This demonstrates how technology-enhanced instruction fostered this intrinsic motivation by allowing learners to take charge of their learning process.

Regarding Competence Building, participants noted that technology-enhanced teaching methods facilitated skill development. Student C's comment about interactive exercises providing immediate feedback aligns with Vygotsky's Zone of Proximal Development theory, that learners develop new skills through guidance and feedback within their zone of achievable challenge. Another participant shared: "The instant feedback I got from online quizzes helped me understand where I went wrong right

away." The immediacy and specificity of feedback available through digital platforms have effectively scaffolded students' skill development.

Finally, on the theme of Sense of Relatedness, despite initial concerns about isolation in online learning environments, many students reported feeling connected with peers and instructors through various interactive features on digital platforms. As Student E mentioned: "The discussion forums and group projects helped me connect with classmates." Another participant added: "Even though we were not physically together in a classroom, I felt part of a community because we could share our thoughts online." This observation resonates with SDT's assertion that relatedness or connection to others is a fundamental psychological need influencing motivation. Despite being physically apart due to online delivery mode, technology-enabled interactions appeared to foster a sense of community among learners. In summary, these student experiences suggest that when effectively integrated into English language instruction, technology can enhance learner autonomy while facilitating competence building and fostering a sense of relatedness among learners. These are all critical components for promoting intrinsic motivation, according to SDT.

Discussion

The findings of this study reveal that students at Universitas Borneo Tarakan (UBT) and Universitas Sawyerigading Makassar (UNSA) report high levels of autonomy, competence, relatedness, motivation, and English language learning outcomes. The data suggest a generally positive experience for students in technology-integrated English language instruction settings. Regarding autonomy, UBT students reported slightly higher scores than those at UNSA. It implies that UBT students felt they had greater control over their learning process in the digital classroom environment. This finding is significant because it supports the Self-Determination Theory (SDT) principle, which emphasizes the importance of autonomy for intrinsic motivation and engagement in learning activities (Deci & Ryan, 2000; Ryan & Deci, 2020)

For competence-relatedness, UBT students also scored slightly higher than UNSA students. These findings suggest a sense of belonging or connection with peers and instructors within digital classrooms for both groups. Again aligning with SDT

principles (Ryan & Deci, 2017), these results underscore perceived competence and relatedness's role in fostering learning motivation. Compared to similar studies conducted in other contexts, such as (Li et al., 2022), our results corroborate their findings on the impact of perceived autonomy and relatedness on learners' engagement in online learning environments. Our study further extends this by demonstrating a positive correlation between these factors and actual English language learning outcomes. From a practical standpoint, educators can apply these insights to enhance their technology-integrated English language instruction by fostering an environment promoting learner autonomy through flexible pacing or personalized content curation; enhancing perceived competence through immediate feedback mechanisms; and building a sense of relatedness through collaborative online tasks or interactive discussion forums. Alternative explanations should be considered when interpreting these findings. For example, individual attitudes towards technology or prior exposure to technology could have influenced student experiences, aspects not measured directly in this study but recognized as influential factors in online learning environments by researchers (Prasad et al., 2018; Wang et al., 2014). External factors like teaching quality or course design could have also contributed to observed outcomes (Jaggars & Xu, 2016). Future research could delve deeper into these alternative explanations by examining how individual attitudes towards technology influence self-determination factors and exploring how different instructional designs may affect learner perceptions within digital classrooms. Limitations include the focus on only two universities within Indonesia, which may limit generalizability across different contexts or institutions; however, comparison with similar studies suggests trends may hold more broadly across the Indonesian higher education sector (Rahayu et al., 2022). Furthermore, while we used a mixed-methods approach combining quantitative survey data and qualitative interview data, self-reported measures can sometimes be susceptible to bias.

Conclusion

The primary aim of this study was to explore students' experiences with technology-integrated English language instruction at two Indonesian universities:

Universitas Borneo Tarakan (UBT) and Universitas Sawerigading Makassar (UNSA). The study sought to understand how perceived autonomy, competence, relatedness, and motivation levels influenced English language learning outcomes in these settings.

Our findings highlight that students from both universities generally reported high autonomy, competence, relatedness, motivation levels, and English language learning outcomes. Specifically, UBT students reported slightly higher scores regarding perceived autonomy and competence-relatedness than their UNSA counterparts. These results underline the originality of our work by providing a nuanced understanding of student experiences within digital classrooms in an Indonesian context.

The achievements of this study lie in its mixed-methods approach, combining quantitative survey data with qualitative interview data for a comprehensive understanding of student experiences. Our findings underscore the importance of fostering learner's sense of autonomy while facilitating competence building and fostering a sense of relatedness among learners, all critical components for promoting intrinsic motivation according to Self-Determination Theory (SDT).

These results are consistent with our initial objectives and hypotheses that anticipated positive correlations between perceived autonomy, competence-relatedness-motivation levels, and improved performance or proficiency outcomes in English language learning. Our findings reinforce these relationships and enhance their significance by demonstrating how they play out within technology-integrated English language instruction settings at UBT and UNSA.

Based on these findings we recommend educators consider ways to effectively integrate self-determination principles into their programs. This could involve designing courses that allow greater learner control over pacing or content selection; incorporating interactive tasks or discussion forums to foster a sense of community; providing immediate feedback mechanisms to enhance perceived competency; offering support structures for less tech-savvy students; or professional development for instructors on best practices for online teaching. For policymakers our research underscores the potential benefits of investing in technology-enhanced education

initiatives as part of wider strategies to improve educational outcomes particularly in language acquisition contexts. Consideration should be given not just towards infrastructure but also towards training educators on how best to leverage digital tools for pedagogical purposes.

Future work should further explore other potential factors influencing student experiences such as individual attitudes toward technology or prior exposure to it. Research could also investigate how external factors like teaching quality or course design contribute to observed outcomes. Expanding the scope beyond UBT and UNSA would also provide insights into whether the trends observed hold more broadly across the Indonesian higher education sector or even internationally.

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