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The Multifaceted Effects of Smart Device Usage on English Majors' Learning Outcomes: A Case Study at Ha Tinh University

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Abstract: This study examines how English majors at Ha Tinh University use smart devices in their learning, focusing on their impacts, students' self-regulation, and suggested strategies. Grounded in Bloom's Taxonomy and Self-Regulated Learning Theory, the research adopts a mixed-method approach, combining questionnaire data with in-depth interviews. Findings indicate that smart devices have both positive and negative effects on learning outcomes. They effectively support lower-order cognitive skills such as remembering and understanding, and facilitate the application of knowledge. They also contribute to higher-order skills, including analyzing, evaluating, and creating. However, overreliance on tools such as translation applications may hinder deep thinking. From the perspective of self-regulated learning, students demonstrate some efforts in planning, monitoring, and reviewing their learning. Nevertheless, many struggle to manage distractions and maintain consistent self-control. The study suggests several strategies to enhance effective use, including technical control measures, structured learning approaches, and improved self-discipline. Overall, while smart devices offer significant benefits, their effectiveness largely depends on students' ability to regulate their own learning.

Keywords: *Smart Devices; Bloom's Taxonomy; Self-Regulated Learning; Academic Performance; Distraction*.

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I. INTRODUCTION

In today's digital era, smart devices such as smartphones, tablets, and laptops have become integral to students' everyday routines. English majors, in particular, frequently rely on these tools for both academic purposes and personal use. Such devices enable quick access to online dictionaries, pronunciation applications, and a wide range of learning platforms, making the learning process more flexible and convenient. Despite these benefits, smart devices also present certain challenges, including increased distractions, excessive screen time, and reduced face-to-face interaction. At Ha Tinh University, English majors make extensive use of smart devices in their studies; however, limited research has examined how this usage influences their learning outcomes and processes. Therefore, this study seeks to investigate the role of smart devices in shaping students' learning experiences and to provide a clearer understanding of technology use in higher education.

Specifically, the study aims to examine both the advantages and disadvantages of smart device usage on students' academic performance and motivation. It also explores learners' attitudes toward integrating these devices into their studies. Based on the findings, practical recommendations will be proposed to encourage more effective and balanced use of smart devices in English language learning. This study aimed to address the following research questions: (1) What are the dual impacts of smart device usage on English majors' learning outcomes and learning processes at Ha Tinh University? (2) How do English majors regulate their use of smart devices to balance their learning processes and entertainment? (3) What strategies can be suggested to maximize the benefits and minimize the drawbacks of smart device usage?

II. PRELIMINARY LITERATURE REVIEW

➢ *The Study is Supported by Three Main Theories:*

- Constructivist Learning Theory posits that learners actively construct knowledge through interaction with their environment rather than passively receiving information (Piaget, 1972). Lev Vygotsky (1978) further emphasizes the role of social interaction in cognitive development. In technology-enhanced learning contexts, digital tools enable learners to engage in active exploration and collaborative learning (Jonassen, 1999).
- Cognitive Load Theory suggests that human working memory has a limited capacity, and excessive information can overload cognitive processing, thereby reducing

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learning effectiveness (Sweller, 1988). Kirschner et al. (2006) argue that unguided or excessive information environments may hinder learning. In the context of mobile learning, Chen and Yan (2016) found that multitasking with smart devices can lead to distraction and decreased academic performance.

- Bloom's Taxonomy classifies cognitive learning objectives into hierarchical levels, ranging from lower-order thinking skills such as remembering and understanding to higher-order skills such as analyzing, evaluating, and creating (Bloom, 1956). The revised taxonomy by Anderson and Krathwohl (2001) provides a more dynamic framework for assessing learning outcomes in modern educational contexts.
- Self-Regulated Learning Theory emphasizes learners' active role in controlling their own learning through processes such as goal setting, self-monitoring, and self-evaluation (Zimmerman, 2000). Pintrich (2004) further highlights the importance of motivation and behavioral regulation. In technology-based learning environments, self-regulation is considered a key factor influencing academic success (Broadbent & Poon, 2015).

III. METHODS AND MATERIAL

➢ *Participants*

Participants of the study were 56 students (11 males and 45 females aged 18 - 26) in English Majors (including 4 students in K15, 14 students in K16, 20 students in K17 and 18 students in K18) in Ha Tinh University.

➢ *Materials*

This study employed two main instruments: a questionnaire and semi-structured interviews. The questionnaire was designed to collect quantitative data on participants' demographic information, purposes, and perceptions of smart device use in English learning. The questionnaire included both closed-ended questions to obtain measurable data, and open-ended questions to allow participants to express their personal opinions in more detail. In addition, semi-structured interviews were conducted to obtain qualitative data, offering deeper insights into students' experiences, self-regulation, and suggested strategies to optimize smart device use.

➢ *Procedures*

The research was carried out in several stages. First, the survey and interview questions were developed based on the theoretical framework to ensure their validity and relevance. Next, the questionnaire was distributed to English majors to gather quantitative data. After that, semi-structured interviews were conducted with eight students, representing different academic years from freshman to senior, to gain deeper insights into their experiences. Finally, all collected data were organized and prepared for analysis.

➢ *Data Analysis*

Both quantitative and qualitative methods were used to analyze the data. Quantitative data from the questionnaire were analyzed using descriptive statistics, including frequencies, percentages, and mean scores, to summarize students' responses. Responses from open-ended questions were also reviewed to supplement the quantitative findings. Meanwhile, qualitative data from the interviews were analyzed using thematic analysis to identify key patterns and themes related to the impacts and regulation of smart device use. Additionally, triangulation was applied to integrate findings from both data sources, thereby improving the reliability and validity of the study.

IV. FINDINGS AND DISCUSSION

➢ *Description of the Demographics Information*

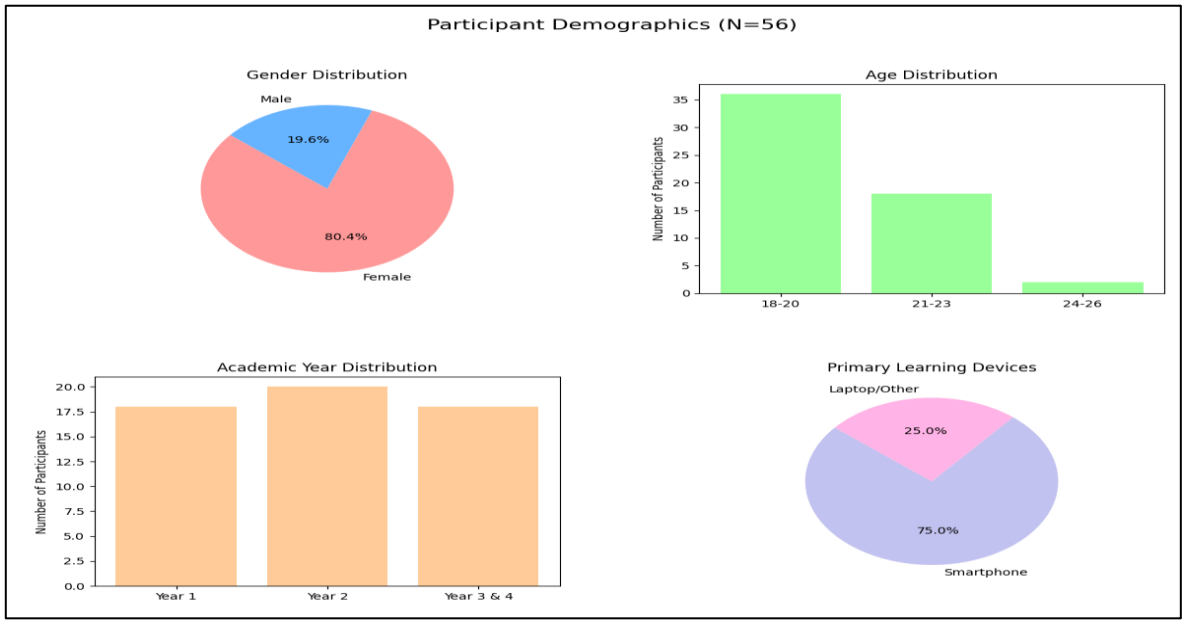

Fig 1 Distribution of Participants by Gender, Age, Academic Year, and Primary Learning Devices

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The study surveyed 56 participants, primarily university students, with a majority being female (around 80%) and males accounting for about 20%. Most respondents were aged between 18 and 20 (approximately 64%), followed by those aged 21–23 (about 32%), while only a small number were in the 24–26 age group. In terms of academic year, the sample was relatively well distributed, with the largest proportions in the second year (35.7%) and first year (32.1%), followed by third- and fourth-year students. Regarding learning devices, smartphones were the most commonly used (around 75%), whereas laptops were less frequently used. Most participants reported spending between 2 and 6 hours per day on smart devices, with a considerable number using them for more than 6 hours daily. In terms of academic performance, the majority had a GPA ranging from 2.6 to 3.0, indicating an overall moderate level of achievement.

- *The Dual Impacts of Smart Device Usage on English Majors' Learning Outcomes and Learning Processes at Ha Tinh University*

This section examines the impact of smart devices on students' academic performance based on Bloom's Taxonomy, using both questionnaire and interview data.

Table 1 Impact on learning outcomes(Bloom's Taxonomy)

No	Items	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
1	REMEMBER: Smart devices help me remember and acquire new English vocabulary effectively.	37,5 %	35,7%	26,8%	0%	0%
2	UNDERSTAND: Smart devices improve my understanding of English lessons and materials.	44,6%	33,9%	21,4%	0%	0%
3	APPLY: I can apply English knowledge in academic tasks (e.g., writing essays, doing assignments) with the support of smart devices.	37,5%	55,4%	7,1%	0%	0%
4	ANALYZE: Smart devices help me analyze English texts and ideas more effectively.	48,2%	42,9%	8,9%	0%	0%
5	EVALUATE: I can evaluate and compare different ideas in English more critically when using smart devices.	33,9%	53,6%	8,9%	3,6%	0%
6	CREATE: Smart devices support me in improving my English writing using tools like Grammarly.	37,5%	50%	10,7%	1,8%	0%
7	CREATE: Smart devices help me generate ideas and content for English tasks using tools like ChatGPT.	39,3%	41,1%	17,9%	1,8%	0%
8	PERFORMANCE: My overall academic performance in English has improved due to smart device usage.	28,6%	46,4%	23,2%	1,8%	0%
9	NEGATIVE IMPACTS I rely too much on translation tools instead of thinking in English.	21,4%	37,5%	35,7%	1,8%	3,6%
10	NEGATIVE IMPACTS I sometimes use smart devices to complete tasks without fully understanding the content.	21,4%	42,9%	26,8%	1,8%	7,1%
11	NEGATIVE IMPACTS: Using smart devices reduces my ability to think critically in English.	23,2%	37,5%	28,6%	7,1%	3,6%

The findings suggest that smart devices have a significant impact on how students learn, based on Bloom's Taxonomy. At the lower levels, students have very positive opinions. Specifically, 73.2% of students agreed that these devices help them remember new words, and 78.5% said they understand English lessons better. This means smart devices are very useful for getting and understanding information because they provide quick access to everything. At the "applying" level, almost everyone agreed (92.9%) that smart devices help them use their English knowledge in real tasks, like writing essays or doing homework. This shows that these tools are very important for improving how fast and how well students work. At higher levels of thinking, the results are also positive but we need to look at them more carefully. Many students agreed that smart devices help them analyze (91.1%), evaluate (87.5%), and create new things (80–87.5%). They feel that these devices are good for thinking deeply and making new ideas. However, there are some negative points. Many students admitted they depend too much on translation tools (58.9%) and sometimes finish their work without understanding the content (64.3%). Also, 60.7% worry that smart devices might make their critical thinking weaker. This shows that even though students think the devices are helpful, they might not be learning deeply in reality.

The interview data provide further explanation for this contradiction. Many students highlighted the benefits of smart devices in improving learning efficiency. For example, one student stated that "smart devices provide quick access to dictionaries, videos, and learning apps, which improve vocabulary and communication skills." . However, several participants also acknowledged negative effects. As one student noted, "constant scrolling can lead to 'skimming' rather than deep reading," which negatively affects understanding of complex subjects . Another student admitted that "I sometimes rely too much on translation tools, so I do not really try to think carefully by myself." .

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While the results above focus on study results, they show that smart devices are dual nature. This means that although they help students study faster and easier, they can also make students lazy in thinking and depend too much on technology. Therefore, the next part of this study will look at how smart devices affect the learning process. The data clearly shows that these devices have a strong impact, with both good and bad sides that we need to consider.

Table 2 Impacts on Learning Processes

No	Items	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
1	Smart devices increase my motivation to learn English.	28,6%	42,9%	23,2%	3,6%	1,8%
2	I can manage my study time more effectively using smart devices.	23,2%	35,7%	33,9%	5,4%	1,8%
3	Smart devices support my independent learning outside the classroom.	28,6%	44,6%	21,4%	1,8%	3,6%
4	I actively use smart devices to complete learning tasks and assignments.	30,4%	41,1%	26,8%	0%	1,8%
5	Smart devices help me maintain regular learning habits.	25%	35,7%	35,7%	3,6%	0%
6	I can easily access learning materials anytime and anywhere using smart devices.	44,6%	39,3%	16,1%	0%	0%
7	Smart devices improve my interaction with teachers and classmates while studying during class time.	37,5%	35,7%	21,4%	0%	0%
8	I feel more engaged in learning activities when using smart devices.	37,5%	35,7%	23,2%	3,6%	0%
9	Smart devices often distract me from my learning tasks.	28,6%	37,5%	23,2%	8,9%	1,8%
10	I find it difficult to concentrate when studying with smart devices.	19,6%	35,7%	41,1%	1,8%	1,8%
11	I use smart devices to practice speaking English regularly.	32,1%	42,9%	21,4%	1,8%	1,8%
12	I use online platforms (e.g., YouTube, Tiktok, Facebook or learning apps) to support my English learning process.	37,5%	46,4%	10,7%	5,4%	0%
13	I use smart devices to interact in English (e.g., chatting, commenting, online discussions).	30,4%	50%	17,9%	1,8%	0%
14	Smart devices help me practice all four English skills in an integrated way.	32,1%	33,9%	28,6%	5,4%	0%
15	I often feel distracted by notifications while studying.	30,4%	42,9%	21,4%	5,4%	0%
16	I tend to procrastinate more when using smart devices.	26,8%	33,9%	32,1%	5,4%	1,8%
17	Using smart devices often leads me to postpone my academic tasks, such as studying or meeting deadlines.	30,4%	35,7%	26,8%	7,1%	0%
18	I become dependent on smart devices for learning.	21,4%	33,9%	35,7%	8,9%	0%

On the positive side, phones and computers have transformed how students learn English. According to the data, 83.9% of students agree that they can “easily access learning materials anytime and anywhere” (Item 6). Additionally, 83.9% of participants use online platforms like YouTube or TikTok to support their studies (Item 12). Interviewee B describes these devices as a “Highly effective tool” because they provide instant access to dictionaries and pronunciation tools. Furthermore, 75% of students regularly use their devices to “practice speaking English” (Item 11), and 80.4% use them for online discussions (Item 13). Interviewee C also noted that these tools allow students to practice listening and pronunciation through multimedia whenever they have free time.

However, on the negative side, smart devices can affect students' ability to focus. The data reveals that 66.1% of students are often “distracted from their studies” (Item 9) and 73.3% feel “distracted by notifications” (Item 15). Student H reported that social media notifications keep appearing and interrupting their concentration, which reduces study quality. Furthermore, 66.1% of students admit that they often “postpone their academic tasks” (Item 17) due to device usage. Interviewee B also warned that constant scrolling leads to “skimming” instead of reading deeply. Finally, Interviewee E and Interviewee H expressed concern that relying too much on Google Translate or AI can reduce independent thinking skills. This is supported by the fact that 55.3% of students feel “dependent on their devices” (Item 18).

In conclusion, while smart devices make learning more convenient and support independent study, they also require students to have strong self-discipline. The final learning outcomes depend not only on the technology but also on the

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students' ability to manage distractions and maintain their own thinking skills.

➢ *English Majors Regulate their use of Smart Devices to Balance their Learning Processes and Entertainment.*

Research shows that English students have a clear process for managing their smart devices. However, there is a big difference between what they plan to do and what they actually do.

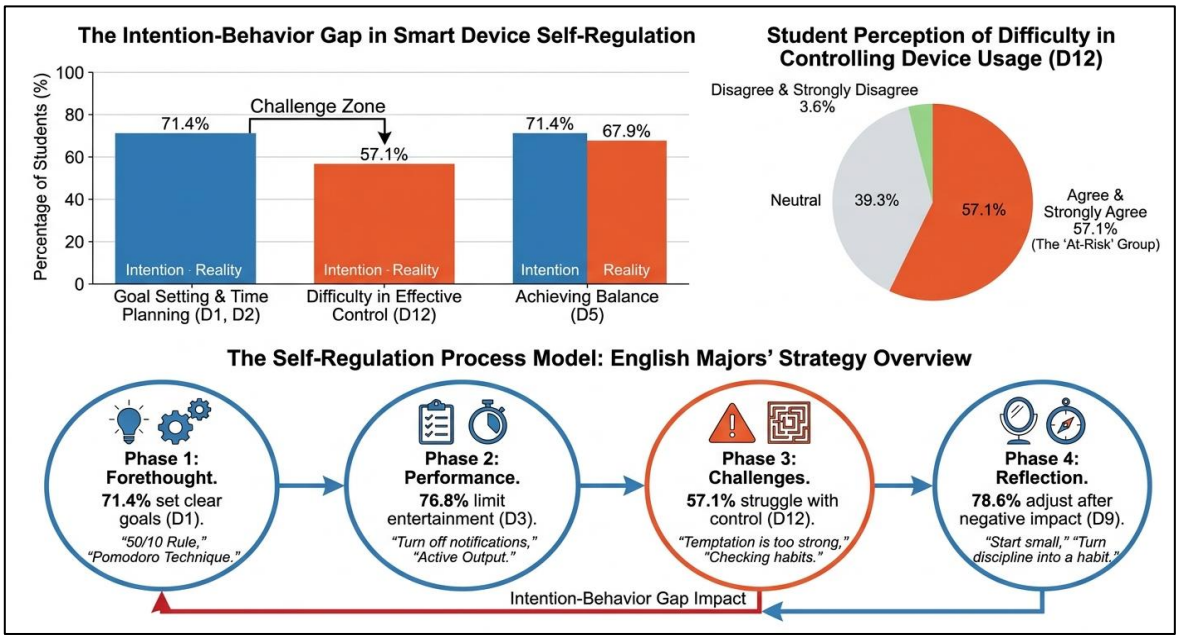

Fig 2 Statistical and Procedural Analysis of Smart Device Self-Regulation among English Majors

In the first stage (Planning), students show that they are very active. According to the survey, 71.4% of students agree that they "set clear learning goals" and "plan their study time" before using their phones or computers. For example, Student A says that many people use apps to block distracting websites. Interviewee B uses a "50/10 Rule" (studying for 50 minutes and resting for 10 minutes) to avoid getting tired. Also, 76.8% of students choose "special apps for English learning", like Oxford or Cambridge dictionaries, instead of just surfing the web.

In the second stage (Doing), students face many problems with distractions. Although 76.8% want to "limit entertainment during study hours" and 69.6% try to "avoid social media" , it is not easy to resist temptation. The chart shows a weak point: 57.1% of students say they "find it difficult to control their device use effectively." Interviewee G says that these plans are not always followed because entertainment is too attractive. Interviewee H also shares: *"I still check my phone many times while studying because notifications make me lose focus."* Because of this, only 67.9% can really "balance learning and entertainment".

In the final stage (Reviewing), students use their experience to change their habits. About 78.6% of students agree to "change how they use devices" if it hurts their studies. Also, 69.6% often "check themselves" to see if their device use helps their goals. Interviewee I suggest that people should "start with small steps" to build better self-control. Interviewee B also encourages students to use devices for "Active Output," such as recording their voice or joining study groups, to stay productive.

To summarize, English students try to manage their devices by using schedules and choosing good apps. However, because 57.1% still have trouble with self-control, planning is not enough. To find a real balance, students need to practice every day and have strong discipline to stay away from online entertainment.

➢ *Strategies to Maximize the Benefits and Minimize the Drawbacks of Smart Device Usage*

This section explains how students can use smart devices more effectively for learning while also avoiding distractions. Based on the survey and interviews, there are three main strategies: technical control, purposeful learning, and self-regulation.

First, technical control is one of the most common ways students reduce distractions. Many of them turn off notifications or use "Focus Mode" when studying. For example, Interviewee B mentioned using apps like Forest or StayFocused to manage their screen time. Interviewee A shared a simple method: putting their phone in another room to stay focused. Similarly, many students in the survey said they use "Do Not Disturb" mode during study time.

Second, students try to use their devices with a clearer purpose. Instead of just scrolling through social media, they use them for learning activities such as practicing speaking, writing, or learning new vocabulary. Interviewee B suggested

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that students should move from "passive scrolling" to "active learning." In a similar way, Interviewee H uses their phone to look up new words and watch educational videos. Some students also use AI tools as a kind of "virtual tutor" to support their learning. Besides that, time management also plays an important role. Many students use the Pomodoro technique or set specific goals before studying. Interviewee D said that having clear goals helps them use their time more effectively.

Third, self-regulation and the study environment are also important factors. Students often try to study in quiet places and keep their phones out of reach. Interviewee C, for example, usually leaves their phone in another room, while Interviewee G pointed out that lack of self-control is a major issue. To deal with this, some students apply different strategies. For instance, Interviewee I follows educational pages so they can see more useful content online. Interviewee B also changes their phone language to English to practice every day.

However, students still face some challenges. Many of them mentioned the "distraction cycle," where they start studying but then get distracted by social media. Interviewee A said that messages often interrupt their focus, and Interviewee B explained that even a single notification can waste a lot of time. To deal with this problem, some students use "Airplane Mode" or simply keep their phones away while studying.

In conclusion, the most effective ways to use smart devices for learning include controlling distractions, having clear goals, and improving self-control. Although students are aware of these strategies, they need to apply them consistently to achieve better results.

V. CONCLUSION

In conclusion, this study demonstrates that smart devices exert a significant dual impact on English majors' learning, encompassing both beneficial and detrimental effects. On the positive side, these technologies facilitate rapid access to information, enhance comprehension, and support a wide range of learning activities, including speaking, writing, and collaborative discussion. Findings interpreted through Bloom's Taxonomy further indicate that smart devices contribute to the development of cognitive skills across all levels, from lower-order processes such as remembering to higher-order skills such as creating.

Conversely, the overuse of smart devices may hinder deep learning, as students tend to rely excessively on translation tools and AI-based applications, thereby limiting critical thinking. In addition, distractions from social media and constant notifications negatively affect students' concentration and academic performance. Although many students attempt to regulate their device usage through planning, they often encounter difficulties in maintaining consistent behavioral control in practice.

To address these challenges, students employ various strategies, including disabling notifications, utilizing educational applications, establishing study schedules, and applying time-management techniques such as the Pomodoro method. Nevertheless, the effectiveness of these strategies largely depends on learners' self-discipline and consistency.

Overall, smart devices present both opportunities and challenges; their effectiveness ultimately relies on balanced usage, strong self-regulation, and active cognitive engagement.

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