

# THE CURRENT STATE OF UNIVERSITY STUDENTS’ ONLINE SELF-DIRECTED LEARNING: A SURVEY-BASED STUDY AT A PUBLIC UNIVERSITY IN HO CHI MINH CITY

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INFORMATION	ABSTRACT
<p><i>Received: 25/06/2025</i>  <i>Revised: 16/08/2025</i>  <i>Accepted for publication: 18/8/2025</i>  <i>Code: TCKH-S03T08-2025-B04</i>  <i>ISSN: 2354 - 0788</i></p> <p><b>Keywords:</b>  <i>Online self-directed learning, university students, fundamental sciences disciplines, priority science and technology disciplines.</i></p>	<p><i>This study investigates the current practices of self-directed online learning among undergraduate students at a public university in Ho Chi Minh City, within the broader context of higher education’s transition toward blended and digital learning models. A total of 908 students from four faculties participated, classified into two disciplinary groups: “Priority Science and Technology Disciplines” and “Fundamental Science Disciplines”. Data were collected using a structured questionnaire based on a five-point Likert scale, covering the following dimensions: learning objectives, content, methods, organisational formats, conditions for implementing and evaluation of self-directed online learning. The responses were analysed using SPSS with descriptive statistics, reliability testing, independent samples t-tests and one-way ANOVA. Findings indicate that students generally hold positive perceptions of their online self-directed learning experiences, particularly in applying technology and accessing open educational resources. No statistically significant differences were found between disciplinary groups or academic years, suggesting that engagement in self-directed online learning may depend more on institutional factors and individual learner attributes than on academic specialisation or seniority.</i></p>

## 1. Introduction

President Ho Chi Minh once emphasized the principle of “placing self-study at the foundation” underscoring the critical importance of learners actively acquiring knowledge to achieve personal growth. In the same vein, Nguyen Canh Toan (2002) defined self-study as a process through which individuals mobilize their intellectual capacity, personal qualities and intrinsic motivation to acquire knowledge and internalize it as a personal asset. From an international perspective, Orjika (2023) also affirmed that

guided self-directed learning not only promotes critical thinking but also serves as a foundation for developing proactive and lifelong learning competencies among students.

In the aftermath of the COVID-19 pandemic, education emerged as one of the most significantly affected sectors, particularly in terms of teaching delivery. The transition from traditional face-to-face learning to online formats-initially a reactive measure-has proven to be effective and adaptable in the new educational landscape. As noted by Tran Quoc Trung (2021), learning

management systems (LMS) have played a key role in the reform of higher education, not only providing the technological foundation for teaching and learning but also functioning as essential tools for monitoring and managing students' learning processes.

In practice, empirical research on self-directed online learning within higher education institutions remains limited, particularly concerning comparative perspectives across different disciplinary fields. This gap raises the following research questions: What is the current state of self-directed online learning among university students? Are there meaningful differences in students' perceptions-regarding learning goals, content, methods, organizational formats, implementation conditions and evaluation-between those enrolled in Priority science and Technology disciplines and those in Fundamental science disciplines? This study aims to explore these questions through a case study conducted at a public university in Ho Chi Minh city.

## **2. Research methodology**

This study employed a quantitative survey design to collect data from undergraduate students at a public university in Ho Chi Minh city. The primary objective was to examine the current practices of self-directed online learning from multiple perspectives-including learning goals, content, methods, organizational formats, implementation conditions and evaluation practices-and to compare potential differences across student groups categorized by academic discipline and year of study.

At the selected university, academic disciplines are classified into two disciplinary groups: Fundamental science disciplines and Priority science and Technology disciplines. The Fundamental science disciplines include fields such as Mathematics, Physics, Chemistry, Earth sciences and Environmental science with

a focus on foundational knowledge and theoretical research. In contrast, the Priority science and Technology disciplines comprise advanced fields such as Biotechnology, Information technology, Microchip design and Semiconductor technology, which are closely aligned with national priorities in sustainable development and renewable energy. Based on this classification, the study selected four academic faculties representing these disciplines as the survey sample. A total of 908 students participated in the survey. Of these, 77% (701 students) were from Priority science and Technology disciplines, namely: The Faculty of Information technology and the Faculty of Biology - Biotechnology, while the remaining 23% (207 students) belonged to Fundamental science disciplines, including the Faculty of Mathematics - Computer science and the Faculty of Geology. This distribution reflects the university's current academic structure and enrollment scale, in which technology-oriented programs are strategically prioritized in alignment with labor market demands and thus enroll a larger proportion of students.

Data were collected using a structured questionnaire based on a five-point Likert scale (ranging from 1 - Strongly disagree to 5 - Strongly agree). Upon collection, the data were processed using SPSS statistical software. Descriptive statistical techniques, such as mean and standard deviation, were used to analyze general response trends. To assess the significance of group differences, two statistical tests were applied: The Independent Samples T-Test (to compare the two disciplinary groups) and One-Way ANOVA (to compare students across academic years). These tests were selected as appropriate tools given the quantitative nature of the data and the objective of comparing independent groups (Hoang Trong & Chu Nguyen Mong Ngoc, 2008).

Research hypotheses:

Null hypothesis (H<sub>0</sub>): There is no statistically significant difference in self-directed online learning between students of the two disciplinary groups.

Alternative hypothesis (H<sub>1</sub>): There is a statistically significant difference between the two disciplinary groups regarding aspects of self-directed online learning.

### 3. Research findings

#### 3.1. The current state of the goals of self-directed online learning

To investigate students’ current perceptions regarding the goals of self-directed online learning, the study employed a questionnaire administered to students across the participating faculties.

**Table 1.** Students’ perceptions of the goals of self-directed online learning

No.	Goals of Self-directed online learning	Students		
		Mean score	Standard deviation	Rating
1	Improving academic performance	3.82	0.867	5
2	Enhancing critical thinking and self-learning capacity	3.97	0.887	3
3	Reinforcing knowledge beyond classroom lectures	3.91	0.844	4
4	Developing technological skills	4.00	0.824	2
5	Practicing research and information retrieval skills	4.08	0.803	1
6	Improving teamwork and academic communication skills	3.76	0.940	6
Overall mean score		3.925		
Cronbach Alpha		0.89		
General assessment		Important		

The survey results in table 1 reveal that students hold a generally positive perception regarding the goals of self-directed online learning, with an overall mean score of 3.93/5. This value falls within the “Important” range, indicating that students are clearly aware of the role and significance of self-directed online learning in their university studies.

Among the listed objectives, the highest-rated item was “Practicing research and information retrieval skills” with a mean score of 4.08 and a standard deviation of 0.803, highlighting that students value self-directed learning as a key mechanism for fostering research capabilities-an essential competency for both academic success and lifelong learning.

Other highly rated goals included “Enhancing critical thinking and self-learning

capacity” (M = 3.97) and “Reinforcing knowledge beyond classroom lectures” (M = 3.91). These findings suggest that students are not only focused on immediate academic outcomes but also actively seek to broaden and deepen their understanding.

Interestingly, the lowest-rated item was “Improving teamwork and academic communication skills” (M = 3.76), which also had the highest standard deviation (SD = 0.940). This result indicates variability in student perceptions of collaborative learning in online environments. It may reflect a lack of effective support structures or student engagement in online academic teamwork activities within the current self-directed learning context.

The reliability of the scale used in the survey was high, with a Cronbach’s Alpha of

0.89, suggesting that the measurement items were stable and well-suited for the surveyed population.

**3.2. The current state of self-directed online learning content**

After identifying students' perceptions of the goals of self-directed online learning, the study proceeded to assess how actively students engaged with the content of such learning activities.

**Table 2.** Students' evaluation of the implementation of self-directed online learning activities

No.	Content of online self-study activities	Students		
		Mean score	Standard deviation	Rating
1	Studying theoretical content of general, foundational and major-specific courses through online materials and lectures provided by instructors.	3.87	0.813	3
2	Proactively seeking and studying supplementary learning resources beyond the official curriculum (e.g., academic articles, e-books, video lectures, open online courses).	3.94	0.861	2
3	Completing practice exercises or subject-specific simulations (e.g., programming, sample analysis, map drawing, calculations) via online platforms.	3.80	0.932	7
4	Participating in group discussions or academic forums related to course content in an online environment.	3.81	0.921	6
5	Demonstrating the ability to use self-learning support tools (e.g., AI chatbots, Google docs, Mendeley).	4.23	0.776	1
6	Receiving guidance from instructors on effective self-directed online learning strategies (e.g., how to read academic texts, take notes, make study plans).	3.82	0.949	5
7	Perceiving online learning as beneficial to comprehension, retention, and application of knowledge in course-related tasks and projects.	3.76	0.915	8
8	Applying knowledge gained from online learning to assignments, academic projects and field-specific practices.	3.85	0.875	4
9	Maintaining motivation and a positive attitude throughout the process of self-directed online learning.	3.73	0.989	9
Overall mean score		3.87		
Cronbach Alpha		0.927		
General assessment		Fairly		

In table 2, students generally expressed a positive evaluation of their engagement in self-directed online learning activities, with an overall mean score of 3.87 out of 5, corresponding to a "Fairly good" rating. This result indicates that students engaged in a wide

range of self-directed activities, from acquiring theoretical knowledge to utilizing technological tools and learning support resources. The reliability of the scale was high (Cronbach's Alpha = 0.927), suggesting consistent responses across the surveyed items.

Among the surveyed items, the most highly rated activity was "Demonstrating the ability to use self-learning support tools such as AI chatbots, Google docs, Mendeley..." with a mean score of 4.23, highlighting learners' increasing digital competence and their ability to access and apply technology tools effectively in their studies. The second-highest rated item was "Proactively seeking and studying supplementary learning resources beyond the official curriculum..." (Mean = 3.94), reflecting a growing tendency among students to broaden their learning scope beyond the instructor-provided materials. This behavior aligns with the core spirit of self-directed learning-autonomy, self-regulation and initiative.

In contrast, the lowest-rated item was "Maintaining motivation and a positive attitude throughout the process of self-directed online learning" which had the lowest mean score (3.73) and the highest standard deviation (0.989). This finding suggests considerable variation in

students' learning motivation, indicating a lack of consistency in self-directed engagement across individuals. Possible explanations include personal differences, limited interaction environments or insufficient instructional support.

Overall, the findings suggest that students are taking self-directed online learning seriously, with a commendable level of engagement. Nevertheless, notable limitations remain-particularly in areas related to peer interaction, intrinsic motivation and the effective application of knowledge-which should be addressed in future online curriculum design and efforts to enhance students' self-learning competencies.

**3.3. The current state of methods and organizational forms of self-directed online learning**

In an online learning environment, the methods and organizational forms of learning play a crucial role in determining the effectiveness of self-directed learning-a process that inherently requires a high degree of autonomy and self-discipline.

**Table 3.** Evaluation of current practices in methods and organizational forms of self-directed online learning

No.	Content	Students		
		Mean score	Standard deviation	Rating
<b>Methods</b>				
1	Learning through video lectures (provided by instructors or open sources)	3.95	0.854	3
2	The university has policies in place to support and guide students toward effective online learning methods	3.86	0.902	4
3	Instructors apply appropriate teaching methods to support students' self-directed online learning	3.99	0.836	2
4	Students can effectively apply online learning methods to real academic contexts	3.95	0.865	3
5	Engaging in supplemental readings (scientific articles, e-books, open educational resources)	4.03	0.858	1
<b>Forms</b>				
6	Students learn via LMS platforms (Moodle, Google Classroom, Microsoft Teams, etc.)	4.07	0.840	1

No.	Content	Students		
7	Instructors regularly require students to create study plans for online learning	3.71	0.980	6
8	Students engage in blended learning models (combining online and face-to-face learning)	3.93	0.900	3
9	Integration of online training with in-person sessions supported by instructor consultation	3.94	0.866	2
10	The university's technical support systems and learning platforms adequately meet teaching and learning needs	3.86	0.891	5
11	The university offers diverse online learning formats aligned with the needs of both students and instructors	3.88	0.897	4
Overall mean score		3.9		
Cronbach Alpha		0.95		
General assessment		Fairly		

The results presented in table 3 indicate that students had a fairly positive evaluation of the methods and organizational forms of self-directed online learning, with an overall mean score of 3.90 out of 5, corresponding to a “Fairly” assessment. The measurement scale demonstrated a very high level of internal consistency (Cronbach’s Alpha = 0.95), ensuring the reliability of the responses. Among the instructional methods, the highest-rated criterion was “Engaging in supplemental readings such as scientific articles, e-books and open educational resources” (M = 4.03), followed by “Instructors apply appropriate teaching methods to support students’ self-directed online learning” (M = 3.99). These findings highlight the pivotal role of open-access learning materials and pedagogical approaches in supporting effective self-directed online learning. Conversely, university support policies and instructors’ practices in requiring students to formulate learning plans were rated

lower (M = 3.86 and M = 3.71, respectively), indicating areas for improvement in fostering structured guidance and learner autonomy.

Regarding organizational forms, the most highly rated criterion was “Students learn via LMS platforms such as Moodle, Google classroom...” (M = 4.07), underscoring the widespread use and perceived effectiveness of digital learning platforms at the university. Overall, the results suggest that students have adapted well to contemporary online learning modalities; however, further investment is needed in institutional support policies, flexible instructional design, and personalized guidance to optimize self-directed learning outcomes.

### ***3.4. The current state of conditions for implementing self-directed online learning***

Self-directed online learning requires adequate technical infrastructure, including stable internet connectivity, access to personal learning devices, appropriate study spaces and well-integrated information technology platforms.

**Table 4.** Students’ evaluation of the conditions for implementing self-directed online learning

No.	Content	Students		
		Mean score	Standard deviation	Rating
1	Internet connectivity quality at the university supports online learning	3.71	0.981	3
2	Students have sufficient learning devices (laptops, smartphones, tablets, headphones...)	3.96	0.831	1
3	Classrooms and libraries provide adequate spaces for online learning (Wi-Fi, equipment, study areas)	3.89	0.947	2
4	Availability of IT infrastructure and support services	3.89	0.874	2
Overall mean score		3.862		
Cronbach Alpha		0.87		
General assessment		Fairly		

Survey data presented in table 4 indicate that students perceived the conditions supporting self-directed online learning as fair, with an overall mean score of 3.86 out of 5 and a Cronbach’s Alpha reliability coefficient of 0.87. Among the evaluated items, the highest-rated condition was “Students have sufficient learning devices” (M = 3.96), suggesting that most students are adequately equipped with personal tools such as laptops, smartphones and headphones for learning purposes. Conversely, the lowest-rated item was “Internet connectivity quality at the university” (M = 3.71, SD = 0.981), which also had the highest standard deviation, indicating substantial variation in students’ experiences with network access-an essential factor influencing the effectiveness of online self-study.

Overall, the results suggest that the material and technological infrastructure necessary for supporting self-directed online learning has been relatively well-established. However, further improvements in internet infrastructure and the optimization of study spaces remain important to enhance students’ autonomous learning efficiency.

**3.5. Evaluation of the current state of students’ self-directed online learning**

To assess the current state of students’ evaluation of their self-directed online learning, the study conducted a survey focusing on several core dimensions: comprehension of learning content, autonomy and self-discipline in study habits and assignments and competence in using digital tools to support the learning process.

**Table 5.** Evaluation of the current state of students’ self-directed online learning

No.	Content	Students		
		Mean score	Standard deviation	Rating
1	Students can understand and master online lecture content	3.84	0.835	5
2	Students are able to study independently without constant guidance from instructors	3.72	0.950	6

No.	Content	Students		
		Mean score	Standard deviation	Rating
3	Students complete assignments on time and ensure quality	3.94	0.814	4
4	Students use online discussion tools effectively (group chat, LMS forums, Google Meet, etc.)	4.03	0.849	1
5	Students are capable of searching and analyzing open-source materials to support their study	4.01	0.811	2
6	Instructors use online assessments to evaluate students' knowledge acquisition	3.99	0.858	3
Overall mean score		3.92		
Cronbach Alpha		0.91		
General assessment		Fairly		

The survey results indicate that students tended to evaluate their self-directed online learning positively, with an overall mean score of 3.92 out of 5, corresponding to a “Fairly” level. The scale also demonstrated high internal consistency, with a Cronbach’s Alpha of 0.91, confirming the reliability and stability of the measurement criteria. The highest-rated item was “Students use online discussion tools effectively” (M = 4.03), suggesting that students actively engaged with academic communication platforms such as group chats, LMS forums and Google Meet during their learning process.

On the other hand, the lowest-rated item was “Students are able to study independently without constant guidance from instructors” (M = 3.72, SD = 0.950), revealing that autonomous learning remains a challenge for some students,

particularly in online learning environments that require high levels of self-discipline and organizational skills. Overall, the results reflect that students have generally developed the capacity to engage effectively in self-directed online learning. However, there is still a need to strengthen institutional and pedagogical support aimed at fostering learners’ autonomy and independence in the digital learning context.

**3.6. Comparison between two disciplinary groups (T-test Analysis)**

To clarify potential differences in self-directed online learning activities across academic disciplines, the study conducted a comparative analysis between two groups of students: those enrolled in priority science and technology disciplines (PSTD) and those in fundamental science disciplines (FSD).

**Table 6.** Comparison result between two disciplinary groups (T-Test Analysis)

Evaluation criteria	Mean (PSTD)	Mean (FSD)	Mean difference	Sig. (2-tailed)	Significance	Conclusion
Goals of self-directed online learning	3.933	3.9002	0.0328	0.555	No	No Significant
Content of self-directed online learning	3.8608	3.8932	-0.0324	0.566	No	No Significant

Evaluation criteria	Mean (PSTD)	Mean (FSD)	Mean difference	Sig. (2-tailed)	Significance	Conclusion
Methods and forms of learning organization	3.914	3.9561	-0.0421	0.467	No	No Significant
Conditions for implementing self-directed online learning	3.8449	3.9191	-0.0742	0.229	No	No Significant
Evaluation of self-directed online learning	3.9127	3.9509	-0.0381	0.503	No	No Significant

Table 6 reveals that all Sig. (2-tailed) values are greater than 0.05, indicating that there are no statistically significant differences between students from the two disciplinary groups across the evaluated dimensions. Although minor differences in mean scores were observed (ranging from  $\pm 0.03$  to  $\pm 0.07$ ), the 95% confidence intervals all include the value zero, confirming the statistical insignificance of these variations. This suggests a relatively equal level of access and engagement with online self-directed learning between students in both priority

science and technology disciplines and those in fundamental science disciplines, reflecting a balanced integration of online education across fields in the modern academic context.

**3.7. Comparison by academic year (One-Way ANOVA)**

A one-way ANOVA test was conducted to determine whether there were statistically significant differences across first-year, second-year, third-year and fourth-year students in terms of the key dimensions of self-directed online learning.

**Table 7.** Comparison by Academic year (One-Way ANOVA)

Evaluation Criteria	F (F-value)	Sig. (p-value)	Conclusion
Goals of self-directed online learning	0.211	0.889	No Significant
Content of self-directed online learning	0.1	0.96	No Significant
Methods and forms of learning organization	0.668	0.572	No Significant
Conditions for implementing self-directed online learning	1.609	0.186	No Significant
Evaluation of self-directed online learning	0.121	0.948	No Significant

The results of the One-Way ANOVA test indicate that there are no statistically significant differences in students’ perceptions of self-directed online learning across academic years, as the p-values for all examined dimensions (goals, content, methods, conditions and outcomes) are greater than 0.05. This suggests that students from first to fourth year demonstrate a relatively consistent level of

awareness and engagement with self-directed online learning, regardless of how long they have been exposed to this learning modality.

**4. Conclusion**

This study offers a comprehensive overview of university students’ self-directed online learning, examining multiple dimensions such as learning goals, content, instructional methods and formats, enabling conditions and

assessment practices. Overall, students reported generally positive perceptions, particularly in leveraging technology and accessing open educational resources. However, several limitations emerged, particularly with regard to students' intrinsic motivation, collaborative learning practices and the level of instructional support received from faculty.

Statistical analyses using independent samples T-Tests and One-Way ANOVA revealed no significant differences across academic disciplines or year levels. These findings suggest that disciplinary orientation or academic seniority may not play a decisive role in shaping students' engagement with self-directed online learning. Rather, such engagement may be more substantially influenced by the institutional learning environment, available support systems and individual learner characteristics.

It is important to acknowledge that the study was limited to student perspectives from a single public university. Moreover, while quantitative methods were effective in revealing general patterns, they may not fully capture the underlying motivations, contextual barriers or pedagogical dynamics influencing students' behaviors. Future research should consider incorporating perspectives from faculty members and academic administrators and applying qualitative methodologies to obtain deeper, more nuanced insights into the mechanisms and contextual factors that drive or inhibit effective self-directed online learning. Exploring these aspects may help fill existing gaps in the literature, particularly regarding how institutional strategies and faculty engagement interact with students' self-regulated learning behaviors in online environments.

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