

The immediate and delayed impact of a flipped learning-based program on university students' learned helplessness

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ABSTRACT

Learned helplessness can significantly hinder academic achievement, necessitating effective pedagogical interventions. The current study investigated the impact of flipped learning as an innovative teaching approach on mitigating learned helplessness in higher education context. Forty undergraduate university students were involved in the study and they were randomly assigned to an experimental group (n=20) which received instruction through the flipped learning approach, or a control group (n=20) which received traditional instruction. Data collection was conducted using the learned helplessness scale. The results of the study revealed statistically significant differences between the experimental and control groups on the learned helplessness scale, indicating that the flipped learning group exhibited lower levels of learned helplessness. Students in the experimental group showed significant immediate reduction in their learned helplessness compared to students of the control group. Nevertheless, follow-up testing revealed that these gains significantly declined over time. This highlights a crucial distinction between the immediate and delayed effects of the pedagogical intervention. Practically, the findings suggest that while flipped learning is an effective tool for reducing learned helplessness, its benefits are transient without consistent reinforcement and systematic support rather than relying on one-time intervention.

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1. INTRODUCTION

University students often find it challenging to navigate the multiple dimensions of their lives and to balance personal aspirations with the demands of academic study. This struggle to achieve equilibrium is often compounded by the pressures and conflicts stemming from inadequate academic adjustment [1]. Moreover, students frequently encounter familial and societal judgment as they struggle to adapt to the demands and changes of university life. The internalization of these negative external labels often undermines students' self-efficacy, leading them to adopt a diminished view of their own potential. This phenomenon is commonly referred to as "learned helplessness".

While higher education remains a vital pillar for a knowledge-driven economy [2], institutions are under increasing pressure to modernize teaching methods to keep pace with societal shifts. However, the persistence of traditional, passive instructional models often fails to foster optimal learning environments. When students struggle to navigate the transition to university life or meet academic demands, they

frequently encounter negative societal and familial judgments [1]. The internalization of these external labels can erode a student's self-efficacy, leading to learned helplessness—a psychological state where individuals perceive themselves as lacking control over their academic success [3]. Understandably, negative self-perceptions can significantly influence students' academic performance and their responses to future situations.

It is evident that traditional teaching methods and outdated educational resources often fail to foster optimal learning environments and achieving learning outcomes [4]. Therefore, educational institutions are increasingly embracing more engaging and effective active learning models, such as flipped learning, to rebuild confidence through mastery and self-regulation among students [5]. Similarly, Abood *et al.* [6] argued that flipped learning can positively enhance students' academic resilience on both the immediate and delayed investigation. Yet, despite the growing body of evidence supporting the immediate benefits of flipped learning, a few studies examine whether the positive effects of flipped learning on student psychology and performance are sustained over time [6], [7]. In particular, no studies have investigated the impact of the flipped model on students' learned helplessness which is addressed by the current study.

The Hashemite University is a prestigious large state university located in Zarqa, Jordan. It was established in 1992 and has offered a wide range of academic programs across various disciplines since then. The university plays a key role in shaping the future leaders of the country. By emphasizing academic rigor, interdisciplinary collaboration, and a global perspective, the university strives to empower its students to become well-rounded individuals equipped to tackle the challenges of the ever-changing world.

During their study, students may face situations where they feel that there is an obvious breakdown between actions and results [3], leading them to feel powerless. They may feel powerless and helpless in their learning journey [4], leading to unintended responses and learning-related issues. In particular, students may feel that they have no sense of control, realizing that there is no predicted relationship between their actions and the results they reach, causing critical changes in their behaviors leading to cognitive, motivational, and emotional deficits [5].

On the contrary, students' agency involves both mental and emotional processes which impact their mindsets and ability to learn. Agency is increasingly considered vital for student's action [6]. The negative responses for feeling powerless can be transformed into learned helplessness [7], [8]. Students who develop learned helplessness lose faith and confidence in their ability to succeed and accept defeat without trying, which can be overcome by giving them more control [9]. Learned helplessness happens when students learn that the outcomes are uncontrollable, resulting in motivational, cognitive, and emotional deficits [10]. Therefore, they might experience negativity toward learning, leading to discouragement, disengagement, exhibit inappropriate behavior, and lower academic performance [8].

Students' academic success can be affected negatively by developing learned helplessness behavior characterized by their inability to learn [9]. Earlier, Kolber [10] pointed out that learned helplessness could lead to a deterioration in performance in achievement situations as it may affect students' willingness to engage in tasks in which they think they may fail. Additionally, students' affective states can significantly impact their overall learning [11]. Specifically, when students face uncontrolled situations, where they believe that failure is unavoidable, they may experience low self-esteem, amotivation, or motivational deficit [11] and tend to avoid unresolved situations [8].

One of the main factors that may lead to learned helplessness among students can be the teaching strategies adopted by their instructors. When students feel that the learning process is highly teacher-centered, they might take the "back seat" and lose interest, feeling disengaged and unmotivated to actively participate in the learning experience, having the sense of losing agency of their own learning. However, students' agency and control cannot be developed without being embedded within the teaching methods and strategies by instructors [11]–[13]. Therefore, teaching strategies that put students at the center and empower them to have agency in their learning can decrease their learned helplessness and motivate them to actively engage in their learning [14].

Flipped learning has gained considerable attention as a promising teaching strategy in higher education. Flipped learning involves the pre-class delivery of instructional materials, such as videos or readings, followed by in-class activities and discussions that reinforce and deepen understanding [5], [15], [16]. This approach aims to enhance student engagement, promote active learning, and foster a more interactive learning environment [17]. Traditionally, students have been passive recipients of education, with little or no autonomy or responsibility for their academic progress. This approach has often been accused of disengaging students and fostering a sense of helplessness. On the other hand, flipped learning challenges this traditional paradigm by empowering students to take an active role in their learning [18] as they are required to watch instructional videos in their own individual space and prepare themselves to participate in discussions and active learning during the group space.

Flipped learning builds on the concept of engaging students with the course materials before the class, which allows the utilization of class time for more effective and meaningful learning experiences in the form of implementing, discussing, and applying course principles [19]. This approach can ignite students'

critical thinking and problem-solving skills [20]–[23]. Furthermore, the implementation of flipped learning also has the potential to improve students' self-efficacy and their ability to plan their study schedules [24]. By granting students more autonomy and responsibility for their own learning, they develop a sense of ownership and agency in their learning journey. Consequently, students may feel enabled by this approach and that they have the power to control their academic progress and “destiny”. However, the impact of flipped learning on reducing learned helplessness among university students requires further investigation.

Students may feel empowered or ignored as a result of the implemented teaching strategies [25]–[27], which can strongly impact students' academic achievement [28]. Students may attain better performance when they are given the chance to define their goals, plan, monitor, and self-evaluate their performance [24], which can strengthen their sense of autonomy and help them reduce their feelings of helplessness and increase educational self-efficacy [27]. Therefore, encouraging students to be more responsible in their learning may increase their engagement and empower them to exercise agency, allowing them to feel more secure and overcome their sense of learned helplessness. Meanwhile, teaching strategies may be responsible for students' learned helplessness due to their teaching practices and strategies. Thus, adopting flipped learning is frequently cited as a successful teaching approach that increases students' confidence, autonomy, and responsibility by activating their responsibilities in the learning process.

Understanding the immediate and delayed impact of a flipped learning-based training program on university students' learned helplessness is of great significance. While previous research has pointed to positive effects of flipped learning on student engagement and academic performance, it is crucial to explore whether these effects extend to reducing learned helplessness and whether they are sustained over time. This study seeks to fill this gap by examining both the immediate and delayed impact of a flipped learning-based program on university students' learned helplessness.

By investigating the immediate effects, we aim to determine whether the flipped learning approach can lead to immediate reductions in learned helplessness among participating students. Additionally, exploring the delayed impact allows us to assess whether the positive effects of the program are maintained or whether students revert to their previous levels of learned helplessness over time. The findings of this study will contribute to the literature on flipped learning and provide valuable insights for educators and practitioners seeking effective strategies to reduce learned helplessness among university students.

While learned helplessness is a global phenomenon, investigating its manifestations within Jordan's higher education system is of paramount importance. Consistent with traditional pedagogical frameworks in other developing nations, a confluence of cultural, socioeconomic, and educational factors significantly shapes student outcomes. In Jordan, university students often encounter a “transitional shock” as they migrate from highly structured, rote-learning secondary environments to the self-directed demands of tertiary education. This shift frequently triggers nonadaptive psychological responses—most notably learned helplessness—which necessitate targeted intervention.

This study examines the impact of adopting a flipped learning-based program on students' learned helplessness, trying to answer the research question: what is the immediate and delayed impact of a flipped learning-based training program on a sample of university students' learned helplessness? To answer this question, two hypotheses were identified:

- H1: there are statistically significant differences at the level of ($\alpha=0.05$) between the mean scores of students in the experimental group (the flipped learning strategy) and the control group (the traditional method) on the learned helplessness scale in the post-test.
- H2: there are statistically significant differences at the level of ($\alpha=0.05$) between the mean scores of the students in the experimental group on the learned helplessness scale delayed test.

2. METHOD

2.1. Study participants

The study comprised 40 students actively enrolled in the counseling psychology skills course, a part of the counseling psychology program. The students were divided into two distinct groups: the experimental group, consisting of 20 students, which received instruction using the flipped learning strategy; and the control group, also consisting of 20 students, which received traditional instruction. Pre- and post-tests were administered to both groups to assess their levels of learned helplessness. Additionally, a follow-up test was conducted with the experimental group one month after the post-test to evaluate the potential delayed impact of the program on students' learned helplessness. Although larger samples are generally preferred in quantitative research to enhance generalizability, the current sample ($N=40$) provides sufficient statistical power to detect the intervention's effects. Nevertheless, future replications utilizing larger, more diverse cohorts are recommended to validate these findings and provide a broader perspective. To ensure equivalence

between the two groups, the learned helplessness scale was administered prior to the intervention and the results presented in Table 1 which shows no significant differences between them.

Table 1. Means, standard deviations, and t-test for the pre-test on the learned helplessness scale

Variables	Group	Mean	SD	T-value	P
Learned helplessness	Experimental	3.43	0.21	1.538	0.13
	Control	3.32	0.23		

2.2. The learned helplessness scale

The study used the learned helplessness scale [29], which is considered highly determinative of learned helplessness [30]. The scale consisted of 20 items, all of which were negative, which was taken into consideration during the analysis stage. Students were asked to respond to each item according to a Likert scale, with four choices for each item (strongly agree, agree, disagree, and strongly disagree). The higher scores on the scale indicated a high score of learned helplessness among students. The scores on the scale ranged from 20-80 points.

To establish validity indicators, the scale was administered to a pilot sample of 22 students drawn from the target population but excluded from the main study sample. The item-to-domain correlation coefficients were calculated, with values ranging from 0.58 to 0.92. Additionally, the item-to-total score correlation coefficients were determined, yielding values between 0.63 and 0.92. In addition, to evaluate internal consistency, Cronbach's alpha reliability coefficient was calculated yielding 0.73. This value was considered acceptable for the objectives of the current study.

2.3. Study implementation procedure

In order to identify students' learned helplessness, the learned helplessness test was used to categorize students according to their levels of learned helplessness. Subsequently, students with learned helplessness were assigned to either an experimental or a control group. The experimental group consisted of 20 students who were selected to study using the flipped learning strategy, while the control group consisted of 20 students who learned in the traditional strategy. The flipped learning concept was introduced to students in the experimental group, explaining their role and how to use materials before each lecture. In addition, the instructor's role focused on presenting and explaining the intended learning outcomes to students and providing them with guidance during their study. The flipped learning-based program incorporated a variety of instructional strategies and methods including:

- Instructional videos: students in the experimental group were required to watch instructional videos covering fundamental skills related to the program content before the scheduled class. This approach allowed students to rewatch and repeat the content as needed, facilitating the learning process.
- Role-playing: this method involves students performing specific roles in a modeled fashion to learn new behaviors or gain a better understanding of challenges. After watching the pre-class videos, students were asked to act out educational scenarios related to the content.
- Peer learning: students were organized into small groups where each group explained a segment of the content to their colleagues after reviewing the learning material. This collaborative strategy contributed to enhancing self-confidence and fostering a sense of self-efficacy.
- Problem-solving: this technique trains individuals to discover and innovate methods for handling challenges. By presenting realistic or educational situations related to the curriculum, students were asked to propose practical solutions.
- In-person discussions: face-to-face classroom discussions were conducted following during the face-to-face classes around the contents of the instructional videos.

3. RESULTS AND DISCUSSION

The current study aimed to test the first research hypothesis (H1), which stated: there are statistically significant differences at the level of ($\alpha=0.05$) between the mean scores of the students in the experimental group (the flipped learning strategy) and the control group (the traditional method) on the learned helplessness scale. Means and standard deviations of students' scores were calculated for the pre-test and post-test of the learned helplessness scale as presented in Figure 1.

Figure 1 shows the experimental group had a significantly lower mean score on the post-test ($M=1.30$, $SD=0.26$) than on the pre-test ($M=3.43$, $SD=0.21$). On the other hand, the control group had a slightly lower mean score on the post-test ($M=3.30$, $SD=0.14$) than on the pre-test ($M=3.32$, $SD=0.23$), but this difference was not statistically significant. The results show apparent differences in the means on the

pre-test and post-test of learned helplessness between the experimental and the control groups. In order to examine the statistical significance of these differences between the two groups, an analysis of variance (ANOVA) test was used, and the results are shown in Table 2.

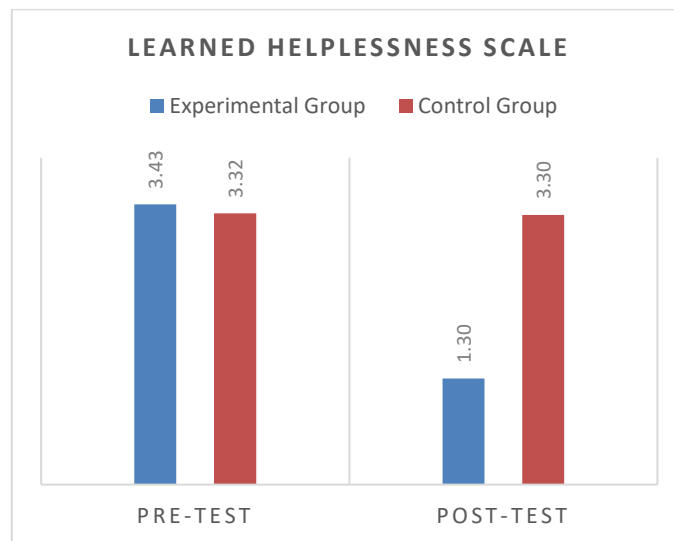


Figure 1. Students' learned helplessness results

Table 2. Results of the ANOVA for the learned helplessness variable

Variable	Source of variation	Sum of squares	Degrees of freedom	Mean square	F-value	p	η^2
Learned helplessness	Pre-test	0.157	1	0.157	3.803	0.05	0.093
	Group	38.843	1	38.843	940.730	0.00	0.962
	Error	1.528	37	0.041			
	Total corrected	41.658	39				

The results of the ANOVA test show that the F value was (940.730), which is a statistically significant value. This indicates that there are statistically significant differences between the pre-test and post-test of learned helplessness in favor of the experimental group in the post-test. Additionally, the value of Eta squared (η^2) was (0.962), which indicates that there is a significant effect of the flipped learning-based program in reducing the level of learned helplessness in the experimental group compared to the control group.

In order to examine the second research hypothesis (H2), which stated: there are statistically significant differences at the significance level ($\alpha=0.05$) between the mean scores of the students in the experimental group on the learned helplessness scale in the follow-up test, means and standard deviations of the post-test and follow-up test responses of the experimental group on the learned helplessness scale were calculated and presented in Figure 2. The figure shows apparent differences in the means between the post-test and follow-up test for learned helplessness. While the immediate impact of the artificial intelligence (AI)-enhanced flipped learning intervention resulted in a significantly low post-test (mean=1.30), indicating a sharp reduction in learned helplessness, the follow-up assessment revealed a return to higher levels with (mean=3.30). In order to determine the significance of these differences, a paired t-test was used and presented in Table 3.

The results presented in Table 3 show that the t-value was -30.441, which is a statistically significant value, indicating that there is a statistically significant difference between the post-test and follow-up test for learned helplessness, meaning that the group did not retain the initial psychological improvements after the active AI intervention ceased. Furthermore, the calculation of Cohen's d_z resulted in a value of (4.81), which points to a very strong and substantial difference between the post and follow-up test scores. This exceptionally large effect size suggests that the reduction in learned helplessness was highly dependent on the active presence of the AI-enhanced flipped learning environment.

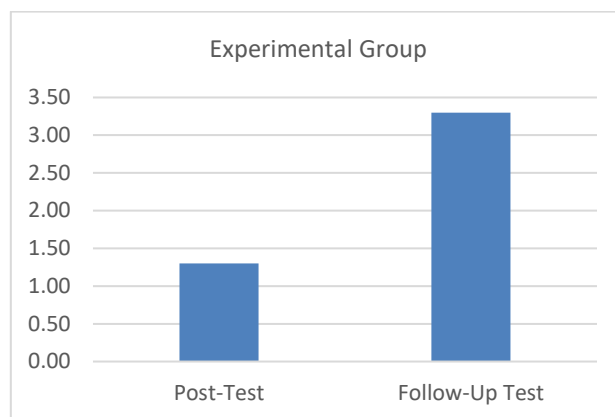


Figure 2. Pre-test and follow-up tests of learned helplessness

Table 3. Paired t-test results for post-test and follow-up test of learned helplessness

Variable	Group	Mean	Standard deviation	t-value	p-value	Cohen's dz
Learned helplessness	Post-test	1.30	0.26	-30.441	0.00	4.81
Learned helplessness	Follow-up test	3.32	0.18			

The findings of the current study demonstrate that the flipped learning program had a clear and positive impact on reducing learned helplessness among university students, with this effect being evident in both the post-test and follow-up measurements. This result is strongly supported by and partially aligns with previous research on the efficacy of the flipped learning model. Similarly, the findings resonate with the work of Smallheer [31], who found that flipped learning enhances students' academic resilience in foreign language learning and Abood *et al.* [6] who showed that positive impact of flipped learning as a tool for academic resilience on university student's efficacy. This increase in resilience suggests an improved ability to cope with academic pressures, which is fundamentally linked to a reduction in learned helplessness. Students who feel a sense of control and capability in facing challenges are less likely to succumb to feelings of helplessness or surrender.

Furthermore, the positive outcome can be attributed to the enhanced student autonomy and self-directed learning fostered by the flipped learning [32]. In a flipped environment, students gain greater control over their learning pace and process, which directly mitigates the feelings of helplessness that often arise from complete dependence on the traditional, fixed-pace classroom setting. The mechanism for this reduction in learned helplessness is further supported by literature indicating that flipped learning reduce student anxiety and increase interaction, thereby creating a more psychologically safe learning environment. Since learned helplessness is frequently associated with feelings of anxiety and a lack of self-efficacy, this safer environment is a crucial factor. Finally, the improvement in learned helplessness is consistent with findings that flipped learning enhances students' use of cognitive regulation strategies (such as planning, monitoring, and reviewing) and promotes self-regulation [33].

The current study investigated the immediate and delayed impact of a flipped learning-based program on a sample of university students' learned helplessness. The results were promising and indicate that the flipped learning program may have had an impact on reducing learned helplessness among the students in the experimental group compared to the control group. This finding can be attributed to several factors. One possible explanation is that the flipped learning approach fosters a sense of autonomy and responsibility among students, which in turn can positively impact their motivation and engagement in the learning process. This aligns with the findings of Atwa *et al.* [24], who emphasized the role of autonomy-supportive instructional strategies in promoting student autonomy and enhancing learning outcomes. By providing students with pre-class learning materials and allowing them to take ownership of their learning, the flipped learning approach may have empowered students and increased their sense of control over their academic progress. Additionally, engagement in active learning activities and tasks in flipped learning can contribute to a more interactive and participatory learning experience [33], which may activate students' sense of relatedness and connection to the learning content, their peers, and the instructor [18]. When students feel connected and involved in the learning process, they are more likely to experience a sense of empowerment and agency, which can be protective against learned helplessness [34].

Moreover, by providing students with pre-class access to the learning materials, they have the opportunity to familiarize themselves with the content, grasp the key concepts, and develop a foundational

understanding of the topic. This pre-exposure enables students to arrive in class feeling more confident and prepared, which in turn enhances their willingness to actively participate in discussions and engage in class activities. Accordingly, feeling more confident in their knowledge and understanding of the subject matter, students are more likely to share their thoughts, ask questions, and contribute to in-class discussions. This increased participation not only helps students solidify their understanding through active engagement but also provides them with opportunities to receive feedback and clarification from their peers and the instructor. Hence, students may gain a sense of ownership over their learning, which can reduce their feelings of helplessness and increase their self-efficacy as a result of actively participating in discussions and activities.

The dynamic environment of in-class discussions and activities provides a platform for students to exchange ideas, question assumptions, and delve into diverse perspectives. This collaborative learning setting not only boosts students' confidence but also strengthens their capacity to overcome feelings of helplessness. By cultivating a supportive and engaging atmosphere, students are empowered to actively contribute to their own learning journey. In addition, it is possible that the flipped learning-based program helped building strong relationships between students and the teacher, which may have contributed to controlling negative emotions and thoughts and transforming them into positive emotions, which helped students defeat anxiety, tension, and feelings of helplessness and self-inefficiency. Therefore, Seligman [9] posits that optimism serves as a psychological "immunization" against learned helplessness and the tendency to surrender following failure. This mindset enables students to maintain a positive outlook, allowing them to recover from setbacks and recognize their agency in changing unfavorable circumstances. This finding points to the positive impact of effective teaching strategies on reducing students' learned helplessness [35]. In particular, the finding resonates with previous findings [25], which confirmed that flipped learning can potentially mitigate learned helplessness by empowering students to take charge of their learning.

Furthermore, examining the lasting effects of a flipped learning-based program on reducing university students' learned helplessness is an essential aspect of understanding its overall effectiveness. The finding that students in the post-test demonstrated statistically significant differences when compared to the follow-up test, indicating a regression to their previous levels of learned helplessness, which suggests that the impact of flipped learning, may be temporary. Similar findings [7], [31] indicated that while flipped learning can positively impact student engagement and performance, this is highly influenced by the current learning environment. Therefore, while flipped learning can enhance engagement, sustaining the gains in the long term requires ongoing support and reinforcement from both instructors and students [36], [37]. Thus, if students move from a supportive flipped learning environment back to a passive, lecture-heavy environment, they often revert to old habits and more likely to lose the self-confidence they gained over time.

This finding could be attributed to the novelty effect, which refers to the influence of the intervention's newness rather than the intervention itself [38]. It is possible that students were more motivated to excel on the post-test due to the novelty of the experience. It can also point to a lack of reinforcement needed to sustain the progress they achieved due to the intervention. This might point to the importance of cultivating student confidence and empowering them over an extended period as soft skills evolve and mature progressively. Consequently, while the intervention initially fostered empowerment and agency, students appeared to experience a decline in confidence afterward. Given the relatively short duration of the intervention, these results suggest that the psychological benefits of flipped learning may be temporary. The flipped learning environment initially satisfied these needs by allowing students to take ownership of their learning. However, the subsequent return of helplessness suggests that when the environmental support for autonomy is removed students' agentic engagement is more likely to fade away and helplessness returns. This indicates that autonomy is not a permanent trait but a state that requires continuous environmental affordances.

While this study provides valuable insights into the role of flipped learning in mitigating learned helplessness, several limitations must be acknowledged. Sample size and generalizability of the study utilized a relatively modest sample size within the context of a single academic course. While the statistical power was sufficient to detect significant intervention effects, the findings may not be fully generalizable to larger student populations or diverse academic disciplines. Future research should aim to replicate these findings across multiple institutions and subject areas. Additionally, the intervention was conducted over a short duration, which may have contributed to the "fade-out" effect observed in the post-intervention phase. As noted in the discussion, psychological shifts in agency and autonomy often require prolonged reinforcement to become permanent. Therefore, a longitudinal investigation would provide valuable insight to determine the long-term sustainability of these pedagogical gains. Furthermore, although the instruments demonstrated strong internal consistency and construct validity, self-reported data are susceptible to social desirability bias and subjective interpretation which points to the value of incorporating qualitative data and mixed-method research for better understanding.

4. CONCLUSION

The current study aimed to examine the impact of teaching methods, particularly those based on a flipped learning strategy, on reducing students' learned helplessness. Based on the findings discussed, it can be concluded that a flipped learning-based program has impressive positive effects on reducing university students' learned helplessness in the short term. The approach fosters autonomy, responsibility, and active engagement, which empower students and contribute to a more interactive learning experience. However, it is important to recognize that the impact of flipped learning on learned helplessness may be temporary. Students may regress to their previous levels of helplessness without continued reinforcement and support. Further research is needed to explore strategies for long-term retention of the positive effects of flipped learning on reducing learned helplessness. The results showed that the intervention was effective in reducing learned helplessness in the short term, but the participants did not retain the improvement in the long term. Based on the results, it is recommended that more empirical and longitudinal studies investigating factors linked to university students' learned helplessness are needed.

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C : Conceptualization

M : Methodology

So : Software

Va : Validation

Fo : Formal analysis

I : Investigation

R : Resources

D : Data Curation

O : Writing - Original Draft

E : Writing - Review & Editing

Vi : Visualization

Su : Supervision

P : Project administration

Fu : Funding acquisition

CONFLICT OF INTEREST STATEMENT

Authors state no conflict of interest.

DATA AVAILABILITY




The data that support the findings of this study are available from the corresponding author, [AA], upon reasonable request.

REFERENCES




- [1] M. Kritikou and T. Giovazolias, "Emotion regulation, academic buoyancy, and academic adjustment of university students within a self-determination theory framework: a systematic review," *Frontiers in Psychology*, vol. 13, p. 1057697, Nov. 2022, doi: 10.3389/fpsyg.2022.1057697.
- [2] J. Salmi, "Constructing knowledge societies: new challenges for tertiary education," *Higher Education in Europe*, vol. 28, no. 1, pp. 65–69, 2003, doi: 10.1080/0379772032000063494.
- [3] A. Mohanty, R. K. Pradhan, and L. K. Jena, "Learned helplessness and socialization: a reflective analysis," *Psychology*, vol. 6, no. 7, pp. 885–895, 2015, doi: 10.4236/psych.2015.67087.
- [4] K. Rajaram, "Future of learning: teaching and learning strategies," in *Learning Intelligence: Innovative and Digital Transformative Learning Strategies: Cultural and Social Engineering Perspectives*, K. Rajaram, Ed., Singapore: Springer Nature Singapore, 2023, pp. 3–53, doi: 10.1007/978-981-19-9201-8_1.
- [5] E. I. Avakyan and D. C. M. Taylor, "The effect of flipped learning on students' basic psychological needs and its association with self-esteem," *BMC Medical Education*, vol. 24, no. 1, p. 1127, Oct. 2024, doi: 10.1186/s12909-024-06113-7.
- [6] M. H. Abood, T. A. Ghbari, and A. M. Abuhmaid, "Flipped learning as a tool for academic resilience: evaluating the efficacy of a training programme for university students," *Innovations in Education and Teaching International*, pp. 1–16, 2025, doi: 10.1080/14703297.2025.2598582.
- [7] E. A. van Vliet, J. C. Winnips, and N. Brouwer, "Flipped-class pedagogy enhances student metacognition and collaborative-learning strategies in higher education but effect does not persist," *CBE—Life Sciences Education*, vol. 14, no. 3, p. ar26, Sep. 2015, doi: 10.1187/cbe.14-09-0141.

- [8] S. Yates, "Teacher identification of student learned helplessness in mathematics," *Mathematics Education Research Journal*, vol. 21, no. 3, pp. 86–106, Oct. 2009, doi: 10.1007/BF03217554.
- [9] M. E. Seligman, *The optimistic child: A revolutionary approach to raising resilient children*, London: Hachette UK, 2011.
- [10] M. Kolber, "Learned helplessness of young people during the COVID-19 distance learning: a research report," *Lubelski Rocznik Pedagogiczny*, vol. 41, no. 1, pp. 41–52, Apr. 2022, doi: 10.17951/lrp.2022.41.1.41-52.
- [11] L. Y. Abramson, M. E. Seligman, and J. D. Teasdale, "Learned helplessness in humans: critique and reformulation," *Journal of Abnormal Psychology*, vol. 87, no. 1, pp. 49–74, Feb. 1978, doi: 10.1037/0021-843X.87.1.49.
- [12] M. E. Seligman, "Building resilience," *Harvard Business Review*, vol. 89, no. 4, pp. 100–106, 2011.
- [13] C. I. Damşa, D. E. Froehlich, and A. Gegenfurtner, "Reflections on empirical and methodological accounts of agency at work," *Agency at Work: An Agentic Perspective on Professional Learning and Development*, M. Goller and S. Paloniemi, Eds., Cham: Springer International Publishing, 2017, pp. 445–461, doi: 10.1007/978-3-319-60943-0_22.
- [14] L. Sorrenti, P. Filippello, S. Costa, and C. Buzzai, "Preliminary evaluation of a self-report tool for learned helplessness and mastery orientation in Italian students," *Mediterranean Journal of Clinical Psychology (MJCP)*, vol. 2, no. 3, pp. 1–14, Nov. 2014, doi: 10.6092/2282-1619/2014.2.1024.
- [15] C. S. Dweck and N. D. Reppucci, "Learned helplessness and reinforcement responsibility in children," *Journal of Personality and Social Psychology*, vol. 25, no. 1, pp. 109–116, Jan. 1973, doi: 10.1037/h0034248.
- [16] G. D. Daggol, "An examination of Turkish college-level students' learned helplessness states in EFL context," *Journal of Higher Education and Science*, vol. 8, no. 1, pp. 145–161, 2018, doi: 10.5961/jhes.2018.257.
- [17] P. Jääskelä, A.-M. Poikkeus, P. Häkkinen, K. Vasalampi, H. Rasku-Puttonen, and A. Tolvanen, "Students' agency profiles in relation to student-perceived teaching practices in university courses," *International Journal of Educational Research*, vol. 103, p. 101604, 2020, doi: 10.1016/j.ijer.2020.101604.
- [18] R. Nakamura and T. North, *Healthy classroom management: motivation, communication, and discipline*. Belmont, CA: Cengage Learning, 2000.
- [19] M. D. Endedijk, J. D. Vermunt, P. C. Meijer, and M. Brekelmans, "Students' development in self-regulated learning in postgraduate professional education: a longitudinal study," *Studies in Higher Education*, vol. 39, no. 7, pp. 1116–1138, Aug. 2014, doi: 10.1080/03075079.2013.777402.
- [20] M. Fang, K. Choi, S. Kim, and B. Chan, "Student engagement and satisfaction with online learning: comparative eastern and western perspectives," *Journal of University Teaching and Learning Practice*, vol. 20, no. 5, pp. 1–24, Sep. 2023, doi: 10.53761/1.20.5.03.
- [21] S. Park and N. H. Kim, "University students' self-regulation, engagement and performance in flipped learning," *European Journal of Training and Development*, vol. 46, no. 1/2, pp. 22–40, Jan. 2022, doi: 10.1108/EJTD-08-2020-0129.
- [22] M. Kloppers and M. J. van Vuuren, "Enhancing critical thinking dispositions in the mathematics classroom through a flipped learning approach," *Journal of Communication*, vol. 7, no. 1, pp. 151–160, 2016, doi: 10.1080/0976691x.2016.11884894.
- [23] Y.-H. Lee, "Scripting to enhance university students' critical thinking in flipped learning: implications of the delayed effect on science reading literacy," *Interactive Learning Environments*, vol. 26, no. 5, pp. 569–582, Jul. 2018, doi: 10.1080/10494820.2017.1372483.
- [24] Z. Atwa, R. Din, N. Othman, and M. Hussein, "Evaluating contribution of flipped learning on secondary students' critical thinking skills toward learning physics in Palestine," *International Journal of Engineering & Technology Sciences*, vol. 7, no. 4.21, pp. 53–57, 2018.
- [25] C.-L. Lai and G.-J. Hwang, "A self-regulated flipped classroom approach to improving students' learning performance in a mathematics course," *Computers & Education*, vol. 100, pp. 126–140, Sep. 2016, doi: 10.1016/j.compedu.2016.05.006.
- [26] M. M. H. Ahmed and B. Indurkha, "Investigating cognitive holding power and equity in the flipped classroom," *Heliyon*, vol. 6, no. 8, p. e04672, Aug. 2020, doi: 10.1016/j.heliyon.2020.e04672.
- [27] F. Ghasemi and M. N. Karimi, "Learned helplessness in public middle schools: the effects of an intervention program based on motivational strategies," *Middle School Journal*, vol. 52, no. 4, pp. 23–32, Aug. 2021, doi: 10.1080/00940771.2021.1948297.
- [28] H. He, "Students' learned helplessness and teachers' care in EFL classrooms," *Frontiers in Psychology*, vol. 12, p. 806587, Dec. 2021, doi: 10.3389/fpsyg.2021.806587.
- [29] N. Guppy, D. Verpoorten, D. Boud, L. Lin, J. Tai, and S. Bartolic, "The post-COVID-19 future of digital learning in higher education: views from educators, students, and other professionals in six countries," *British Journal of Educational Technology*, vol. 53, no. 6, pp. 1750–1765, Nov. 2022, doi: 10.1111/bjet.13212.
- [30] F. W. Quinless and M. A. M. Nelson, "Development of a measure of learned helplessness," *Nursing Research*, vol. 37, no. 1, pp. 11–15, Jan. 1988, doi: 10.1097/00006199-198801000-00003.
- [31] B. A. Smallheer, "Learned helplessness and depressive symptoms in patients following acute myocardial infarction," M.S. thesis, Vanderbilt University, Nashville, United States, 2011.
- [32] S. Izadpanah, "The impact of flipped teaching on EFL students' academic resilience, self-directed learning, and learners' autonomy," *Frontiers in Psychology*, vol. 13, p. 981844, 2022, doi: 10.3389/fpsyg.2022.981844.
- [33] Y. R. Tsai, "Promotion of learner autonomy within the framework of a flipped EFL instructional model: perception and perspectives," *Computer Assisted Language Learning*, vol. 34, no. 7, pp. 979–1011, 2021, doi: 10.1080/09588221.2019.1650779.
- [34] J. F. Strayer, "How learning in an inverted classroom influences cooperation, innovation and task orientation," *Learning Environments Research*, vol. 15, no. 2, pp. 171–193, Jul. 2012, doi: 10.1007/s10984-012-9108-4.
- [35] M. J. Lage, G. J. Platt, and M. Treglia, "Inverting the classroom: a gateway to creating an inclusive learning environment," *The Journal of Economic Education*, vol. 31, no. 1, pp. 30–43, Jan. 2000, doi: 10.1080/00220480009596759.
- [36] A. M. Eldowah and S. A. Alnajashi, "The effectiveness of a multi-dimensional teaching strategy on students' attitudes and level of learned-helplessness," *International Journal of Psychological Studies*, vol. 9, no. 3, pp. 1–11, May 2017, doi: 10.5539/ijps.v9n3p1.
- [37] R. Talbert and J. Bergmann, *Flipped learning: a guide for higher education faculty*, 1st ed. New York: Routledge, 2023, doi: 10.4324/9781003444848.
- [38] D. M. Elston, "The novelty effect," *Journal of the American Academy of Dermatology*, vol. 85, no. 3, pp. 565–566, Sep. 2021, doi: 10.1016/j.jaad.2021.06.846.

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