IJBMC
International Journal of Body, Mind and Culture

Volume 12, Issue 5, pp 199-208
DOI: 10.61838/ijbmc.v12i5.1215

Article type:
Original Research

Developing a Meaning-Oriented Educational Program Based on High School Students' Lived Experiences: Effects on Academic Meaning, Procrastination, and Self-Efficacy

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Article history:

Received 21 May 2025
Revised 14 June 2025
Accepted 24 June 2025
Published online 01 Aug 2025

How to cite this article:
Amiri, S., Nematzadeh Gotabi, S., Parsa Moein, K. (2025). Developing a Meaning-Oriented Educational Program Based on High School Students' Lived Experiences: Effects on Academic Meaning, Procrastination, and Self-Efficacy. International Journal of Body, Mind and Culture, 12(5), 199-208.

ABSTRACT

Objective: This study aimed to design a meaning-oriented educational package based on the lived experiences of 12th-grade students and assess its effectiveness in enhancing academic meaning, reducing academic procrastination, and improving academic self-efficacy.

Methods and Materials: The study followed an exploratory sequential mixed-methods design. In the qualitative phase, 12 male students in Tehran were selected through purposive sampling and interviewed using a phenomenological approach to identify components of meaningful learning. In the quantitative phase, a quasi-experimental pretest–posttest design with a control group and a 3-month follow-up was implemented. A total of 30 male students were randomly assigned to experimental and control groups (n=15 each). Instruments included the Academic Meaning Questionnaire (Henderson-King & Smith), the Academic Procrastination Scale (Solomon & Rothblum), and the Academic Self-Efficacy Scale (Owen & Froman). The intervention comprised 12 structured sessions developed based on qualitative findings. Data were analyzed using repeated-measures ANOVA and Bonferroni post-hoc tests.

Findings: The meaning-oriented educational package significantly improved academic self-efficacy ($\eta^2 = 0.60$), academic meaning ($\eta^2 = 0.58$), and reduced academic procrastination ($\eta^2 = 0.53$) in the experimental group compared to the control group ($p < 0.001$). These improvements remained stable at the 3-month follow-up. Qualitative analysis revealed five key themes: learning purpose, teaching strategies, learning strategies, curriculum content, and educational challenges.

Conclusion: Integrating meaning-centered strategies into educational programs can enhance students' motivation and engagement by fostering purposeful learning, reducing procrastination, and strengthening self-efficacy. This model may serve as a replicable intervention in broader educational contexts.

Keywords: Meaning-Oriented Education, Academic Procrastination, Academic Self-Efficacy, High School Students, Mixed Methods.

Introduction

Educational systems worldwide constantly strive to enhance their efficiency and prevent academic failure, school dropout, and underachievement through various approaches. Academic success requires an internal driving force that motivates students to remain active, engaged, and persistent throughout their learning journey. In this regard, academic progress and persistence in education depend largely on the presence of meaning during the learning process (Bourap et al., 2020; Perkmen et al., 2021).

Academic meaning encompasses multiple dimensions, including career (education as preparation for a profession), independence (education as an opportunity for growth), future (discovering life paths and future planning), learning (engagement with new ideas), connection (building friendships), world (creating change in society), self-growth (self-discovery), next step (a stage similar to previous educational phases), pressure (education as a source of stress), and escape (avoiding stressful aspects of adulthood) (Henderson-King & Smith, 2016; Henderson-King & Mitchell, 2021). Previous studies have emphasized that meaning-oriented learning is a vital element for fostering and sustaining academic performance (Ragusa et al., 2023).

Notably, the development of academic meaning begins during school years (Strobel et al., 2021). For some learners, schooling provides a sense of order, purpose, and hope in facing life's uncertainties. Over time, however, the meaning attributed to education may change. For example, older generations tended to perceive education as a valuable pursuit in its own right (Koh et al., 2018). Finding meaning in education plays a crucial role in students' academic lives, serving as a key factor for persistence and the pursuit of higher education (Ritov & Babb, 2019; Azami et al., 2017).

According to Frankl's logotherapy, meaning in life is essential, and academic meaning may differ depending on individual and contextual factors (Parker, 2022). The meaning-centered approach argues that although external circumstances may limit human choice, individuals always retain the freedom to choose their attitudes and interpretations. Accordingly, students are encouraged to acknowledge life's challenges while striving to construct a deeper meaning for their educational journey (Chantal, 2022). This approach can serve as an effective strategy for addressing common academic problems and challenges (Kim & Cho, 2021).

Given the significance of academic performance and the sensitive stage of adolescence, it is critical to address issues such as academic procrastination and low self-efficacy, both of which are negatively influenced by a lack of educational meaning. Developing an educational package based on a meaning-oriented approach may provide students with strategies to overcome these difficulties. Such interventions can enhance learning, promote classroom adaptation, improve interpersonal relationships, and increase students' psychological well-being (Jarmeka et al., 2020; Kuhfeld, 2020; Mirsemi et al., 2021; Chen et al., 2020).

Meaning-oriented educational programs possess several key features, such as teaching students how to regulate emotions positively (Jurado et al., 2021), manage exam anxiety (Yusuf et al., 2021), apply lessons to daily life (Warrier et al., 2021), develop relaxation and acceptance strategies (Klabach et al., 2021), manage anger (Khoram et al., 2021), strengthen communication and interpersonal skills (Costa et al., 2021), and transform negative emotions into positive ones (Zhao et al., 2021).

Since academic self-efficacy and procrastination are strongly affected by a lack of meaning, finding effective solutions to increase academic meaning is essential for improving student performance. To this end, the present study first explored the lived experiences of 12th-grade students through qualitative methods to identify causal, contextual, and intervening factors, as well as strategies and outcomes related to academic meaning. Based on these findings, a meaning-oriented educational package was developed and tested for its effectiveness in enhancing academic meaning, reducing procrastination, and improving self-efficacy among high school students.

Methods and Materials

Study Design and Participants

The present study employed a sequential exploratory mixed-method design, combining two approaches: (a) a qualitative phenomenological study, and (b) a quasi-experimental design. The qualitative phase was conducted using phenomenology, while the quantitative phase followed a quasi-experimental pretest–posttest design with a control group and a three-month follow-up.

In the qualitative phase, purposive sampling was used to recruit 12th-grade male students from District 10 of Tehran. The sample size of 12 participants was determined based on the principle of theoretical saturation: after interviewing 10 participants, no new themes emerged, and two additional interviews were conducted to ensure completeness.

In the quantitative phase, the statistical population included all 12th-grade male students in District 10 of Tehran during the academic year 2023–2024. Based on Cohen's formula, a sample of 30 students was determined. Participants were selected through purposive sampling according to inclusion and exclusion criteria, and then randomly assigned to an experimental group (n = 15) and a control group (n = 15).

Instruments

Academic Meaning Questionnaire (Henderson-King & Smith, 2006**):** This 86-item questionnaire assesses various meanings individuals attribute to education, distributed across ten dimensions: career (11 items), independence (5 items), future (3 items), learning (10 items), self (11 items), next step (3 items), social (12 items), world (8 items), stress (12 items), and escape (11 items). Items are rated on a five-point Likert scale (1 = very little, 5 = very much). Reliability in the original study ranged from α = .44 to .80 across subscales, with an overall α = .94. In Iran, the questionnaire was translated and validated by Kadkhodaei & Karami (2024), using forward–backward translation, expert review, and a pilot study. In this study, Cronbach's alpha was α = .88.

Procrastination Assessment Scale for Students (PASS; Solomon & Rothblum, 1984**):** This 27-item scale measures academic procrastination across three domains: preparing for exams (8 items), preparing assignments (11 items), and preparing term papers (8 items). Items are scored on a five-point Likert scale (0 = never, 4 = always). Nine items are reverse-scored. Total scores range from 0 to 108, with higher scores indicating greater procrastination. Reported reliability is α = .79; in Iranian validation, α = .82 (Nouri Emamzadei & Nilforoushan, 2016). In this study, internal consistency was α = .77.

Academic Self-Efficacy Questionnaire (ASEQ; Owen & Froman, 1988**):** The ASEQ contains 33 items (reduced to 32 in the Persian version due to cultural adaptation) rated on a five-point Likert scale (1 = very little, 5 = very much). Scores range from 32 to 160, with higher scores reflecting greater academic self-efficacy. Reported reliability includes test–retest (r = .90) and internal consistency (α = .91). In this study, Cronbach's alpha was α = .91.

Intervention: Meaning-Oriented Educational Package

The intervention consisted of a 12-session meaning-oriented training program, developed by the researcher, with each session lasting 120 minutes. The sessions included structured activities, group discussions, experiential exercises, and homework assignments (Table 1).

Table 1

Researcher-Developed Meaning-Oriented Educational Package

Session	Content
1	Introduction, informed consent, pre-test, motivation building, overview of meaning-oriented education, benefits of meaning in academic life, prevention of depression, confusion, and lack of motivation, introduction to meaning, existential inquiry, and homework.
2	Explanation of types of meaning, identification of genuine meaning, pathways to meaning, reflection and meditation exercises, and homework.
3	Discovering personal meaning, acceptance of life challenges, resilience, sacrifice for meaning, developing social relations, finding purpose in suffering, and homework.
4	Continuation of meaning exploration, de-centering, flow, contentment, forgiveness, enjoyment, harmful/conflicting meanings, and homework.
5	Identification of false meanings, breaking depression cycles, existential freedom and choice, increasing existential awareness, and homework.
6	Maintaining meaning, spiritual intelligence, attitude change, meaning creation, academic meaning, and homework.
7	Responsibility for meaning, listening to conscience, values selection, meaning through experiential, attitudinal, and creative values.
8	Academic meaning, strengthening family relations, loyalty to meaning, growth-oriented mindset, silencing the inner critic, and homework.
9	Faith in academic meaning, solitude practice, kindness to self and others, gratitude, connection with the Creator, and homework.

10	Life purpose exploration, consequences of lack of goals, existential analysis of purpose, and homework.
11	Connection with personal meaning, metacognition, planning, self-regulation, commitment, boundary-setting, academic application, and homework.
12	Strengthening willpower, optimism, post-test, program closure, and homework.

The package was validated through content validity and expert review. Five experts in psychology, education, and logotherapy evaluated the content in terms of relevance, logical sequence, applicability, and clarity. Their feedback led to revisions (e.g., simplifying abstract concepts, adding culturally relevant examples). A pilot study with 5–8 students tested comprehension, engagement, timing, and emotional reactions. Adjustments were made based on student feedback and researcher observations. Content validity was confirmed (Cohen's kappa > .49 across sessions).

Data Analysis

In the qualitative phase, data were analyzed using Colaizzi's (1978) phenomenological method. In the quantitative phase, descriptive statistics (mean, standard deviation) and inferential statistics (univariate and multivariate repeated-measures ANOVA) were used to compare within-group and between-group effects. Post hoc Bonferroni tests were conducted for pairwise comparisons. Statistical assumptions were checked using the Kolmogorov–Smirnov test, Box's M test, Mauchly's test of sphericity, and regression slope homogeneity. Data analysis was performed with SPSS version 26.

Findings and Results

In the qualitative section of the present study, to identify the components of the meaning-centered approach to learning, 12 twelfth-grade students from District 10 of Tehran in the academic year 2023–2024 were interviewed through semi-structured interviews until theoretical saturation was achieved.

Based on the lived experiences of these students, as shown in Table 2, five main themes were extracted using Colaizzi's descriptive phenomenological approach: "Understanding the Purpose of Learning," "Teaching Strategies," "Learning Strategies," "Course Content," and "Challenges." According to the steps of Colaizzi's method, the conducted interviews were read several times. Significant statements were identified, and codes representing the meaning of those statements were assigned. In the next step, the extracted conceptual codes were grouped based on similarities and differences and categorized as sub-themes. Finally, in order to identify the components of the meaning-centered approach to learning based on the lived experiences of twelfth-grade students, the sub-themes were combined into broader categories and placed into five overarching main themes. As a result of this data analysis process, the 12 interviews with participants produced 224 initial conceptual codes, which were then synthesized into 16 common concepts, grouped into sub-themes, and ultimately classified into the five main themes.

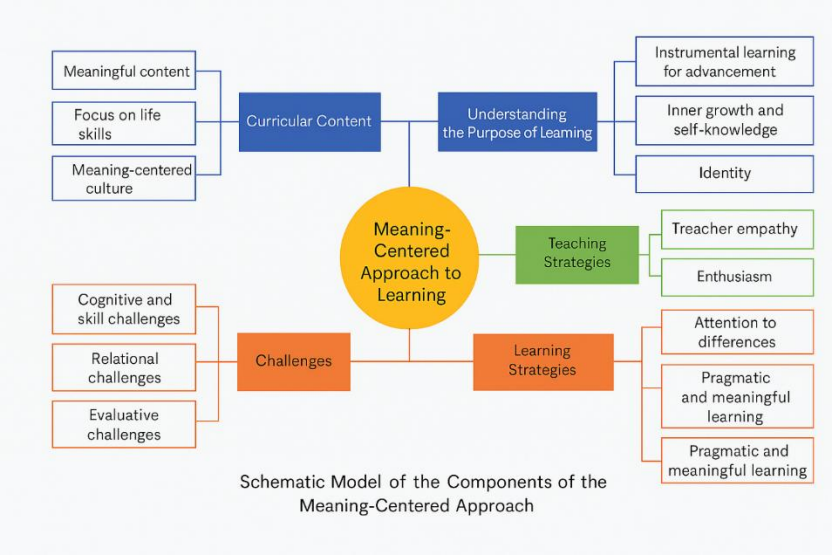

Figure 1. Schematic Model of the Components of the Meaning-Centered Approach

In the quantitative section of the study, to examine the effectiveness of the meaning-centered educational package on academic self-efficacy, educational meaning, and academic procrastination scores across the pre-test, post-test, and follow-up stages, a mixed-design analysis of variance (ANOVA) was used (with one within-subjects factor and one between-subjects factor). The three stages (pre-test, post-test, and follow-up) were considered the within-subjects factor, and the group assignment (experimental and control) was considered the between-subjects factor. To assess significant differences in the mean scores of academic self-efficacy, educational meaning, and academic procrastination between the two groups across the three time stages, assumptions of homogeneity of variances and sphericity were first tested. The assumption of equal variances was satisfied (P>0.05). The variance of the differences between all combinations of the groups (sphericity) must also be equal. To test this assumption, Mauchly's Test of Sphericity was used, and the results showed that the assumption of sphericity was not met (P<0.05). Therefore, in hypothesis testing, the Greenhouse-Geisser correction was applied to achieve a more accurate approximation. Mean and Standard Deviation of Academic Meaning, Academic Self-Efficacy, and Academic Procrastination in the Meaning-Centered Educational Package and Control Groups are presented in Table 2.

Table 2

Mean and Standard Deviation of Academic Meaning, Academic Self-Efficacy, and Academic Procrastination in the Meaning-Centered Educational Package and Control Groups

Group	Variable	Index	Pre-test	Post-test	Follow-up
Meaning-Centered Educational Package	Academic Meaning	Mean	42.87	57.13	56.67
		SD	5.90	5.21	5.68
Control	Academic Meaning	Mean	41.60	39.40	41.13
		SD	4.24	6.97	6.32
Meaning-Centered Educational Package	Academic Self-Efficacy	Mean	78.33	110.00	111.33
		SD	16.90	28.21	25.80
Control	Academic Self-Efficacy	Mean	77.33	78.00	77.59
		SD	20.31	30.52	36.93
Meaning-Centered Educational Package	Academic Procrastination	Mean	90.33	76.33	75.00
		SD	32.35	27.29	28.65
Control	Academic Procrastination	Mean	90.60	90.33	90.47
		SD	31.88	31.95	32.33

The results of repeated-measures ANOVA for within- and between-group factors are presented in Table 3.

Table 3

Repeated-Measures ANOVA for Academic Self-Efficacy, Educational Meaning, and Academic Procrastination

Effect	Variable	SS	df	MS	F	Sig.	η^2 (Effect Size)
Within-Subjects (Time)	Academic Self-Efficacy	846.06	1.58	533.84	67.01	.001	–
	Academic Meaning	673.69	2.00	486.84	55.64	.001	–
	Academic Procrastination	239.48	1.64	145.83	48.57	.001	–
Interaction (Time × Group)	Academic Self-Efficacy	637.08	1.58	401.98	50.46	.001	–
	Academic Meaning	411.08	2.00	205.54	31.26	.001	–
	Academic Procrastination	177.80	1.64	108.26	36.06	.001	–
Between-Subjects (Group)	Academic Self-Efficacy	1202.67	1.00	1202.67	42.80	.001	.60
	Academic Meaning	1083.10	1.00	1083.10	36.54	.001	.58
	Academic Procrastination	462.40	1.00	462.40	31.93	.001	.53

As shown in Table 3, the effect of time on academic self-efficacy, academic procrastination, and educational meaning was significant (P<0.01). Therefore, there are differences between the three stages (pre-test, post-test, and follow-up) in these variables across both the experimental and control groups. Furthermore, results indicate significant interaction effects between time and group for academic self-efficacy, academic procrastination, and educational meaning (P<0.01), which demonstrates that the changes across the three stages (pre-test, post-test, and follow-up) differed between the experimental and control groups.

In addition, based on the values of F and significance levels, the between-group effects were also significant for academic self-efficacy, academic procrastination, and educational meaning (P<0.01). This indicates that there were meaningful differences between the experimental group (which received the meaning-centered educational package) and the control group. As shown in the effect size column, the educational package accounted for 60% of the variance in academic self-efficacy, 53% of the variance in academic procrastination, and 58% of the variance in educational meaning. To examine pairwise comparisons across

stages, Bonferroni's post hoc test was conducted. The results are presented in Table 4.

Table 4

Bonferroni Post-Hoc Comparisons of Academic Self-Efficacy, Educational Meaning, and Academic Procrastination

Variable	Comparison (Groups)	Pre-test	Post-test	Follow-up	Sig.
Academic Meaning	Control vs. Intervention	ns	17.73	15.54	.001
Academic Self-Efficacy	Control vs. Intervention	ns	32.00	33.74	.001
Academic Procrastination	Control vs. Intervention	ns	−24.00	−24.47	.001

As seen in Table 4, significant differences were found between the experimental and control groups in academic self-efficacy, educational meaning, and academic procrastination ($P < 0.05$). Bonferroni's test indicated that significant differences existed between pre-test and post-test, as well as between pre-test and follow-up, in all three dependent variables. However, no significant differences were found between post-test and follow-up scores, suggesting that the gains in academic self-efficacy, educational meaning, and reduction of procrastination in the experimental group were maintained over the follow-up period.

Discussion and Conclusion

The qualitative phase of this study aimed to identify the components of a meaning-centered approach to learning based on the lived experiences of twelfth-grade male students. The statistical population included twelfth-grade students from District 10 of Tehran during the 2023–2024 academic year. Twelve male students were selected through theoretical saturation and participated in semi-structured interviews. The interviews were analyzed using phenomenological methods and Colaizzi's approach. Based on the data analysis, five main themes were identified: understanding the purpose of learning, teaching strategies, learning strategies, curriculum content, and challenges. Sixteen subthemes also emerged, including: learning as a tool for progress, inner growth and self-awareness, identity formation, social tools, attention to individual differences, emotional support, teacher competency, collaborative learning, purposeful and practical learning, independent learning, meaningful content, cultural orientation, attention to life skills, cognitive and skill-based challenges, communication challenges, and assessment challenges.

The interviews and extracted themes revealed that students perceived learning not merely as a means to achieve grades, but as a tool for progress in various aspects of life. They saw learning as a bridge for connecting with others, understanding differences, contributing to social change, and fulfilling roles in society. According to participants, learning served as a pathway to academic success, desirable employment, financial and intellectual independence, social recognition, and preparation for an uncertain future. This perception reflects the intrinsic link between extrinsic and intrinsic motivations in the learners' cognitive framework. In a meaning-centered approach, learning does not occur in isolation but gains meaning within human and social relationships. Therefore, the design of educational activities must simultaneously foster social and ethical learning alongside formal knowledge acquisition.

The analysis of students' lived experiences also indicated that achieving a meaning-centered approach depends significantly on teaching and learning strategies as well as curriculum content. Learning strategies often revolved around student interaction with peers and teachers, with group-based and project-oriented activities being emphasized. However, despite the focus on group activities, some students preferred independent learning according to their personal characteristics and learning styles. Teaching strategies highlighted the methods of content delivery and the teacher's ability to accommodate diverse learning styles, offering emotional support while presenting lessons. Emotional support was described as fostering a sense of value, motivating students, and addressing their individual needs.

In addition, students stated that curriculum content should align with contemporary societal issues and respond to the practical and professional needs of learners, while also incorporating national and local cultural values. The curriculum should equip students with the skills necessary for future academic stages and life in general. Alongside these findings, the interviews also uncovered challenges such as cognitive and skill-based weaknesses (e.g., lack of creativity or inability to

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work in scientific or cultural groups), communication difficulties, and dissatisfaction with unfair or biased grading practices.

The participating students considered learning effective only when it was connected to their personal, academic, and future career goals. Many reported that their motivation to learn increased when they could see how school subjects applied to real-life situations, career choices, or understanding social issues. This finding aligns with Frankl's meaning-centered approach (1975) regarding "finding meaning in experiences," and with constructivist theory, which emphasizes active and goal-directed learning. Similar results were reported by Salimi (2020) and Jafari (2022). Some students also described learning as a foundation for self-awareness, enabling them to discover personal interests, abilities, and life directions. This supports Erikson's theory of identity development and Karimi's (2021) findings on the relationship between self-knowledge and meaningful learning. Moreover, many participants highlighted the social dimension of learning, noting that group projects, discussions, and peer interactions deepened their understanding of concepts. This corresponds to Vygotsky's view of the role of social interactions in cognitive development, as well as research by Mirzaei et al. (2022) and Kay, Allison, and Amanda (2021).

Students emphasized the teacher's role in creating a supportive environment, recognizing individual differences, and demonstrating academic and professional competence. Teachers who showed patience, empathy, and creativity in addressing students' needs were particularly valued. These findings are consistent with Carl Rogers' facilitative approach to education and Bakhtiari's (2019) research on the characteristics of meaning-centered teachers.

Participants described meaningful curriculum content as that which connected to real life, cultural values, societal needs, life skills, and personal concerns. They demanded not merely theoretical knowledge, but practical, problem-based instruction integrated with daily experiences. These findings align with the "life-relevant curriculum" perspective, Tyler's theory, and the studies of Kianifar (2022) and Rezaei (2018).

Challenges of Meaning-Centered Education

Students also reported several challenges, such as the lack of qualitative assessments, rigid course structures, neglect of cultural and individual diversity, limited interaction, and the high-pressure university entrance exam system. These issues suggest that achieving a meaning-centered approach requires more than just a shift in teachers' methods—it also necessitates systemic reform of the broader educational structure.

The effectiveness of the meaning-centered educational package on academic meaning can be explained through its ability to enhance students' sense of purpose by connecting learning with their personal values and life goals. The meaning-centered approach emphasizes that education should be more than just obtaining grades and passing evaluations; it should provide a meaningful experience aligned with students' identities. By highlighting the connection between academic subjects and personal life, this approach strengthened intrinsic motivation and fostered students' sense of belonging in the learning process.

According to self-determination theory (Deci & Ryan, 2000), when students perceive academic activities as consistent with their goals and values, intrinsic motivation is enhanced. This was confirmed in the current study, where the meaning-centered package facilitated meaningful goal-setting, positive peer interactions, and stronger personal connections to learning. Moreover, consistent with Frankl's (1963) logotherapy, the intervention helped students view learning as a path toward higher life goals, thus reinforcing purpose and resilience.

Regarding academic procrastination, the intervention significantly reduced students' tendencies to delay tasks by reshaping their perceptions of learning and linking it to personal meaning. Procrastination often arises from fear of failure, anxiety, or lack of intrinsic motivation. However, through goal-setting strategies (Locke & Latham, 2002) and motivational frameworks such as Pintrich's (2000) self-regulation theory, students were encouraged to adopt proactive learning behaviors. By aligning educational goals with personal values, the package reduced procrastination and increased timely engagement with academic responsibilities.

The package also strengthened academic self-efficacy by fostering a sense of control and competence. Bandura's (1997) self-efficacy theory emphasizes that successful experiences and positive interactions are key to enhancing self-belief. The intervention included tasks that encouraged problem-solving and mastery, allowing students to experience academic success firsthand.

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These experiences directly boosted their confidence in their ability to complete academic tasks effectively.

Several limitations should be acknowledged. First, the use of purposive, non-random sampling of male twelfth-grade students restricts the generalizability of findings. Second, reliance on self-reported questionnaires may have introduced bias compared to observational or longitudinal methods. Third, the inability to control cultural and social variables in procrastination behavior poses another limitation. Additionally, the lack of a long-term follow-up reduced the ability to assess the sustainability of outcomes.

Future research is recommended to replicate this study with randomized samples, include female students, and conduct long-term follow-ups. Larger and more diverse samples across different cities and social groups would also enhance generalizability. Finally, further studies should explore systemic reforms to complement meaning-centered teaching at the structural level of the education system.

Acknowledgments

The authors express their gratitude and appreciation to all participants.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. Ethical considerations in this study were that participation was entirely optional.

Transparency of Data

By the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

Authors' Contributions

All authors equally contribute to this study.

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