WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

The Impact of Educational and Familial Contexts on Learner Autonomy: A Gender Perspective in Cambodian High Schools

Sophorn Ngath [a]*

[a] *Build Bright University, Battambang, Cambodia*

ABSTRACT

This study explores gender differences in learner autonomy among high school students in Cambodia, focusing on how perceptions of independence in goal setting, self-monitoring, and resource-seeking are influenced by educational and familial contexts. Utilizing a quantitative cross-sectional survey method, data were collected from 412 students across five provinces, revealing that females reported higher levels of perceived autonomy and parental support compared to males. However, statistical analyses showed no significant gender associations in key areas such as goal setting and feedback perceptions, indicating a complex relationship between gender and autonomous learning. The study highlights the need for improved teacher training and gender-responsive pedagogical practices to foster an inclusive learning environment that supports all students. By identifying the variations of learner autonomy, this research contributes to the understanding of educational equity in Cambodia, emphasizing the importance of addressing underlying biases to enhance both academic performance and personal development among students. Recommendations for educators, students, and parents are provided to promote an equitable educational landscape that values independence and supports diverse learning needs. Ultimately, this study underscores the necessity of further research to develop effective strategies for enhancing learner autonomy across genders in Cambodia's evolving educational framework.

Keywords: Learner autonomy, Gender-responsive pedagogy, Gender parity, Gender inequality, Education challenges, Traditional stereotypes

1. Introduction

Gender issues persist not only in developing nations but also in highly developed countries, and Cambodia exemplifies the challenges faced in education due to its restrictive cultural norms. Despite women outnumbering men, the illiteracy rate among women remains higher, and female school enrollment lags behind that of males. Although girls and boys begin their education on equal footing in primary school, dropout rates for girls increase significantly as they progress, particularly after secondary school, largely due to traditional stereotypes that prioritize boys' education and labor contributions. Many parents view girls as responsible for household chores and believe that investing in their education is unnecessary, especially since women are expected to rely on their husbands after marriage. Additionally, in a largely agrarian society where around 80% of families are farmers, girls are often kept home to assist with domestic and agricultural tasks, limiting their educational opportunities. Consequently, many parents consider practical skills or factory work more beneficial for their daughters than formal education, contributing to ongoing gender inequality in Cambodia's educational landscape (Chheang, 2012)[1].

In the past two decades, Cambodia has prioritized access to education and quality learning for all children, emphasizing gender parity. Following the adoption of the 2003 Dakar Framework for Action, the national Education for All plan significantly increased enrollment, particularly for girls, who began to surpass boys in both enrollment and performance by 2013. By 2021, the government achieved 100% enrollment for girls and noted that they outperformed boys at the Grade 5 level. However, many students still struggle to acquire the basic knowledge and skills expected by the end of primary and secondary education (Chea, P., Tek, M., & Nok, S., 2023)[2]. Despite national policies promoting gender equality and largely gender-responsive monitoring procedures, the implementation of gender-responsive pedagogy remains inconsistent among teachers and school leaders. While some positive practices, such as shared chores and equitable learning materials, are emerging, gender-based biases and instances of abuse persist, indicating a need for further action. To effectively address these underlying biases and move beyond mere parity, there is a clear necessity for improved teacher training, better-defined policies, and robust support from school leaders and ministry personnel (Educational Development Trust, 2024)[3].

Despite notable progress in gender parity in Cambodian education, significant disparities in learning autonomy persist between male and female students, raising concerns about the long-term impact on academic performance and personal development. Although girls have begun to enroll in schools at rates comparable to or higher than boys, traditional cultural norms continue to shape their educational experiences, influencing their perceptions of independence in learning. Factors such as goal setting, self-monitoring, and resource-seeking behaviors are crucial for fostering academic success, yet they may be affected by the gender-based biases that still permeate the educational environment. Additionally, the support students receive from their schools and parents plays a vital role in shaping their confidence and capabilities in independent learning.

This study aims to examine gender differences in learning autonomy by analyzing how male and female students perceive their independence in areas such as goal setting, self-monitoring, and resource-seeking. Additionally, it will assess students' perceptions of support from their school environments—including teaching methods and feedback—as well as parental encouragement, with a focus on identifying gender-based differences. Finally, the research will investigate how confidence in independent learning relates to academic performance perceptions among male and female students, seeking to uncover any significant trends.

2. Literature Review

2.1 Learner Autonomy

Autonomy in learning refers to an individual's ability to take charge of their own educational process, encompassing both the methods and content of learning. This concept emphasizes the importance of collaboration and interaction with peers and instructors, suggesting that effective autonomy enhances student engagement and self-regulation (Ngath, S., Eong, D., & Ly, S., 2024)[4]. By taking control of their education, students can determine what they learn and how they approach their studies, reflecting a belief in their capacity for self-direction and the development of an independent, proactive attitude toward learning (Oxford University Press ELT, 2013)[5].

In the context of education, an autonomous learner is one who can independently make and implement choices regarding their learning process, relying on two key components: knowledge of available alternatives and the skills to execute appropriate learning strategies, along with the willingness that includes motivation and confidence to take responsibility for their decisions. Together, these elements empower students to engage more effectively in their learning (Littlewood, 1996)[6]. There are two levels of self-regulation in learning: proactive autonomy, where learners take charge by setting objectives, choosing methods, and evaluating progress, and reactive autonomy, which allows them to organize resources independently to achieve their goals (Littlewood, 1999)[7]. Additionally, learner autonomy can be viewed through two complementary lenses: a narrow view that focuses on teaching learners how to learn, referred to as "academic autonomy," which promotes strategic practitioners, and a broad view that sees learning as a means to an end, termed "liberatory autonomy," which empowers learners to become critical thinkers (Kumaravadivelu, 2003)[8].

Promoting learner autonomy inherently involves promoting teacher autonomy, as the autonomy of teachers directly influences that of their students (Dam, 2011)[9]. To foster autonomy, two important changes are needed in the classroom: increasing learner involvement in organizing the learning process and altering the teacher's role. This includes sharing responsibility with learners by providing choices, granting them genuine authority, encouraging contributions and peer teaching, promoting project work, and allowing self-assessment when appropriate (Esmaili, 2016)[10]. Importantly, fostering autonomy does not require a specific approach; rather, any method that encourages and empowers learners to take greater control over their learning can be seen as a way to promote autonomy (Benson, 2008)[11]. Moreover, autonomy is not merely a teaching method to be implemented through lesson plans; teachers should cultivate a sense of responsibility and encourage learners to actively participate in decision-making regarding their education to enhance autonomy (Lee, 1998)[12].

2.2 Experiential Learning Theory

Experiential learning theory, shaped by important 20th-century thinkers like Dewey, Lewin, and Piaget, presents a comprehensive view of learning and adult development based on six key ideas (Kolb, A. Y., & Kolb, D. A., 2005)[13]. It suggests that learning should be seen as a process rather than just an outcome, highlighting the need to engage students actively and provide feedback, which reflects Dewey's belief that education is a continuous rebuilding of experience (Dewey, 1897)[14]. This process involves revisiting and integrating students' existing beliefs with new concepts while addressing conflicts between different ways of adapting. Differences and disagreements help drive learning as individuals move between reflection, action, feeling, and thinking. Learning is holistic, involving not just thinking but also feeling, perceiving, and behaving. It happens through interactions between the person and their environment, balancing new experiences with existing ideas. Ultimately, learning is about creating knowledge, promoting a constructivist approach where social knowledge is continually developed within each learner, in contrast to traditional methods that focus on passing down fixed ideas (Kolb, A. Y., & Kolb, D. A., 2005)[13].

The study by Hossain and his team, in Karachi, examines the relationship between Experiential Learning (EL) and Learner Autonomy (LA) among eighth-grade students participating in a role-play activity at a private English Medium School. Utilizing correlation and regression analysis, the research found a strong correlation coefficient of 0.989, indicating a robust connection between the two variables. The linear regression model revealed that Experiential Learning accounts for 33.1% of the variance in Learner Autonomy, with results significant at the 0.05 level. Both the Experiential Learning Scale (ELS) and Learner Autonomous Scale (LAS) demonstrated high reliability, with a Cronbach alpha of 0.97. Overall, the findings suggest a moderate relationship between the dimensions of Experiential Learning and Learner Autonomy, highlighting the importance of experiential activities in fostering student independence (Hossain, S. A., Manzoor, M. A., & Hashmi, R., 2023)[15].

3. Methodology

3.1 Research Design

This research employed a cross-sectional survey design utilizing a quantitative approach to gather data. A multiple-choice structured questionnaire served as the primary data collection tool, enabling the systematic measurement of various constructs and demographic information within the target population. The survey was self-administered via Google Forms and distributed through the Telegram platform. By capturing responses at a specific point in time, this method facilitated the analysis of patterns, relationships, and prevalence related to the research topic.

The study's population comprised high school students from five provinces in Cambodia: Banteay Meanchey, Battambang, Pailin, Preah Vihear, and Takeo. A representative sample was selected from 14 high schools, which included a diverse mix of 12 public and 2 private institutions. In total, the survey involved 412 students, consisting of 271 girls and 141 boys. This sampling method aimed to ensure a broad representation of students from various educational settings and gender groups, offering a comprehensive perspective on learner autonomy and its influencing factors within different high school environments.

3.2 Variables and Data Analysis

The variables in this study included gender (female and male students), elements of learner autonomy, influencing factors, and the outcomes of autonomous learning. Gender was analyzed to explore potential differences in autonomous learning behaviors, while the elements of learner autonomy encompassed various aspects such as motivation, self-regulation, and goal-setting. The influencing factors examined included environmental and contextual elements that may affect learner autonomy, and the outcomes measured focused on the effectiveness and success of autonomous learning strategies among students.

The data collected in this study included both nominal and ordinal variables. Gender was classified as a nominal variable, distinguishing between female and male students. The remaining 20 variables were measured at the ordinal level, utilizing an agreement scale that ranged from "Strongly Disagree" to "Completely Agree," encompassing options such as "Disagree," "Somewhat Disagree," "Slightly Disagree," "Neutral," "Slightly Agree," "Somewhat Agree," and "Agree." This combination allowed for a comprehensive analysis of the relationships and patterns among the variables.

The Statistical Package for the Social Sciences (SPSS) software was utilized to analyze the data. Crosstabulation, chi-square tests, likelihood ratio tests, and linear-by-linear association analyses were conducted to examine the differences between genders in relation to learner autonomy, influencing factors, and the outcomes of autonomous learning. These statistical methods allowed for a detailed understanding of how gender might impact various aspects of learner autonomy and its associated outcomes.

3.3 Limitation

The study on students' perceptions of learning autonomy faced several notable limitations that affected the interpretation of its findings. While the sample of 412 participants provided some insights, it lacked sufficient demographic diversity, which could have led to a richer understanding of how gender differences influenced perceptions of learning autonomy. Moreover, the statistical power of the analysis was compromised by low expected counts in some Chi-Square test cells, making it challenging to draw definitive conclusions about the significance of the observed gender differences. Although the research was conducted across five provinces, this represented only one-fifth of the country, and the inclusion of just 14 upper secondary schools constituted a very small proportion compared to the 1,771 secondary schools nationwide (Open Development Cambodia, 2021)[16]. Additionally, the 412 students surveyed accounted for only a fraction of the approximately 869,080 (Trading Economics, 2024)[17] total high school students in the country, further limiting the generalizability of the findings.

Another significant limitation of this study was its reliance on self-reported data, which inherently introduced biases in the way participants perceived their own autonomy and the support they received from various sources. Students often have subjective interpretations of their experiences, leading them to either overestimate or underestimate their levels of independence and the external support available to them. This discrepancy is frequently influenced by personal beliefs, individual circumstances, or the desire to present themselves in a socially acceptable light. For instance, students might inflate their sense of autonomy to align with societal ideals of independence or downplay the support they receive to avoid appearing dependent. Moreover, the study predominantly utilized quantitative measures, such as surveys with fixed-response options, which may have limited the richness of the data collected. Such an approach risks overlooking the nuanced and complex experiences that students undergo, which qualitative methods could capture more effectively. Incorporating interviews or open-ended survey questions would have allowed participants to express their thoughts and feelings in greater detail, potentially enriching the data and offering a more profound understanding of students' perspectives on their autonomy and support.

Lastly, the findings of the study may not have been generalizable to other educational settings or populations, thereby limiting their applicability beyond the specific group studied. The data gathered reflected perceptions at a particular moment in time, which suggests that a longitudinal approach might have provided a more dynamic and evolving view of how students' perceptions change over time. A longitudinal study could track the same students across different educational stages, allowing researchers to observe shifts in their understanding of autonomy and support as they encounter new challenges and experiences. Additionally, the study did not adequately explore external factors that could influence students' perceptions, such as socio-economic status, the nature of the educational environment, or the dynamics of peer relationships. These elements can significantly shape how

students perceive their learning autonomy and the support systems available to them. Addressing these limitations in future research could greatly enhance the understanding of students' perceptions regarding learning autonomy, leading to more effective strategies that support diverse learners in various educational contexts.

4. Results

4.1 I can set my own learning goals

The data on gender differences in students' perceptions of their ability to set personal learning goals provides important insights into learner autonomy. Out of 412 participants, a majority of females (271) report feeling autonomous, with 119 agreeing and 56 remaining neutral about their goal-setting abilities. In contrast, the 141 male respondents show more diverse views; 31 are neutral, while only 57 express strong agreement. This indicates that, although many students feel positively about their autonomy, females generally have greater confidence in their goal-setting skills. These results underscore the role of gender in understanding learner autonomy and suggest that educational strategies may need to be adjusted to better support both genders.

Table 1: Crosstab – "I can set my own learning goals."

	Strongly Disagree	Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	1	1	4	6	56	11	37	119	19	17	271
Male	3	2	2	1	31	7	15	57	12	11	141
Total	4	3	6	7	87	18	52	176	31	28	412

The Chi-Square test results show no statistically significant link between gender and students' perceptions of their ability to set personal learning goals. The Pearson Chi-Square value is 7.374 with 9 degrees of freedom, resulting in an asymptotic significance of 0.598, which is well above the usual threshold of 0.05. Similarly, the likelihood ratio of 7.296 and the linear-by-linear association value of 0.326 also indicate no significant relationship, as both values exceed the significance threshold, with p-values of 0.606 and 0.568, respectively. Additionally, 40% of the cells in the analysis had an expected count of less than 5, with the lowest expected count being 1.03. This suggests potential limitations in the data distribution, highlighting the need for cautious interpretation of the findings.

Table 2: Chi-Square Tests – "I can set my own learning goals"

	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.374[a]	9	0.598
Likelihood Ratio	7.296	9	0.606
Linear-by-Linear Association	0.326	1	0.568
N of Valid Cases	412		

a. 8 cells (40.0%) have expected count less than 5. The minimum expected count is 1.03.

4.2 I can monitor my progress toward my learning goals

The crosstab data on students' ability to monitor their progress toward learning goals, categorized by gender, reveals some intriguing insights. Among the 412 participants, females (271) exhibit a wide range of perceptions, with the highest number (117) falling in the "Agree" category, followed by "Neutral" (58) and "Slightly Agree" (16). In contrast, male respondents (141) display a more varied distribution; their most common response is "Neutral" (31), followed by "Agree" (65), with fewer strongly agreeing (9). Both genders show low numbers in the "Strongly Disagree" and "Completely Agree" categories, indicating that while many students feel moderately confident in tracking their progress, females tend to have a more optimistic view than males. This difference underscores the significance of gender in understanding autonomy and self-monitoring in the learning process.

Table 3: Crosstab – "I can monitor my progress toward my learning goals"											
	Strongly Disagree	Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	1	0	4	7	58	16	34	117	18	16	271
Male	2	1	0	2	31	6	15	65	10	9	141
Total	3	1	4	9	89	22	49	182	28	25	412

The Chi-Square test results indicate no statistically significant relationship between the variables analyzed. The Pearson Chi-Square value is 6.995 with 9 degrees of freedom, resulting in an asymptotic significance of 0.638, which is significantly higher than the conventional threshold of 0.05. Likewise, the likelihood ratio of 8.457 and the linear-by-linear association value of 0.092 further confirm the lack of a significant connection, as both exceed the significance threshold, with p-values of 0.489 and 0.762, respectively. Additionally, it is important to note that 35% of the cells in the analysis had expected counts below 5, with the minimum expected count being 0.34. This limitation warrants caution in interpreting the results, as low expected counts can undermine the reliability of the findings.

Table 4: Chi-Square Tests – "I can monitor my progress toward my learning goals"			
	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.995[b]	9	0.638
Likelihood Ratio	8.457	9	0.489
Linear-by-Linear Association	0.092	1	0.762
N of Valid Cases	412		
b. 7 cells (35.0%) have expected count less than 5. The minimum expected count is 0.34.			

4.3 I feel motivated to learn even without direct supervision

The crosstab data regarding students' motivation to learn independently, categorized by gender, offers valuable insights. Among the 412 participants, females (271) display a diverse range of responses, with the highest count in the "Agree" category (132), followed closely by "Strongly Agree" (44) and "Somewhat Agree" (24). In contrast, male respondents (141) show a more varied distribution, with "Agree" being the most common response (48), followed by "Strongly Agree" (34) and "Slightly Agree" (12). Both genders report low numbers in the "Strongly Disagree" and "Completely Agree" categories, suggesting that while many students feel motivated to learn without supervision, females generally demonstrate a greater sense of motivation than males. This difference emphasizes the significance of gender in understanding intrinsic motivation in the learning process.

Table 5: Crosstab – "I feel motivated to learn even without direct supervision"											
	Strongly Disagree	Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	3	1	0	1	24	3	24	132	39	44	271
Male	1	0	2	3	17	6	12	48	18	34	141
Total	4	1	2	4	41	9	36	180	57	78	412

The results of the Chi-Square tests demonstrate a statistically significant association between the variables examined. The Pearson Chi-Square value is 20.428 with 9 degrees of freedom, yielding an asymptotic significance of 0.015, which is below the conventional threshold of 0.05. Similarly, the likelihood ratio is 20.792, with a significance level of 0.014, further supporting the presence of a significant relationship. However, the linear-by-linear association value is 0.368 with a significance of 0.544, indicating no significant linear trend between the variables. Additionally, it is important to note that 45% of the cells in the analysis had expected counts of less than 5, with a minimum expected count of 0.34. This limitation suggests that caution is warranted in interpreting the results, as low expected counts can compromise the reliability of the findings. Overall, these results suggest a meaningful association that may warrant further exploration with a more balanced dataset.

Table 6: Chi-Square Tests – "I feel motivated to learn even without direct supervision"			
	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	20.428[c]	9	0.015
Likelihood Ratio	20.792	9	0.014
Linear-by-Linear Association	0.368	1	0.544
N of Valid Cases	412		
c. 9 cells (45.0%) have expected count less than 5. The minimum expected count is 0.34.			

4.4 I actively seek additional resources to enhance my learning

The crosstab data on students' proactive engagement in seeking additional resources for their learning provides a detailed overview categorized by gender. Among the 412 participants, females (271) exhibit a diverse range of responses, with the highest count in the "Agree" category (130), followed by "Slightly Agree" (26) and "Neutral" (42). In contrast, male respondents (141) show a more varied distribution, with "Agree" being the most common response (59), followed by "Slightly Agree" (17) and "Neutral" (18). Both genders have low counts in the "Strongly Disagree" and "Completely Agree" categories, suggesting that while many students actively seek out additional resources for their learning, females tend to show a greater inclination to do so compared to males. This difference highlights the significance of gender in understanding students' resource-seeking behaviors in the learning process.

Table 7: Crosstab – "I actively seek additional resources to enhance my learning."											
	Strongly Disagree	Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	2	1	1	5	42	16	26	130	25	23	271
Male	1	0	1	2	18	8	17	59	22	13	141
Total	3	1	2	7	60	24	43	189	47	36	412

The Chi-Square test results indicate no statistically significant relationship between the examined variables. The Pearson Chi-Square value is 5.987 with 9 degrees of freedom, resulting in an asymptotic significance of 0.741, which is significantly higher than the standard threshold of 0.05. Similarly, the likelihood ratio is 6.160, with a significance level of 0.724, reinforcing the absence of a significant relationship. The linear-by-linear association value is 0.938, with a significance of 0.333, indicating no meaningful linear trend between the variables. Additionally, it's noteworthy that 40% of the cells in the analysis had expected counts below 5, with the lowest expected count being 0.34. This limitation suggests that caution is warranted when interpreting the results, as low expected counts can impact the reliability of the findings. Overall, these results imply a lack of meaningful association, which may warrant further investigation with a more balanced dataset.

Table 8: Chi-Square Tests – "I actively seek additional resources to enhance my learning."			
	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.987[d]	9	0.741
Likelihood Ratio	6.160	9	0.724
Linear-by-Linear Association	0.938	1	0.333
N of Valid Cases	412		
d. 8 cells (40.0%) have expected count less than 5. The minimum expected count is 0.34.			

4.5 I am involved in choosing the topics I study in my courses

The crosstab data regarding students' involvement in selecting the topics they study reveals notable gender differences. Among the 412 participants, females (271) show a diverse range of responses, with the highest count in the "Neutral" category (81), followed by "Agree" (107) and "Slightly Agree" (26). In contrast, male respondents (141) exhibit a different distribution, with "Neutral" (37) as their most common response, followed by "Agree" (53) and "Slightly Agree" (10). Both genders report low numbers in the "Strongly Disagree" and "Completely Agree" categories, suggesting that while many students feel somewhat involved in choosing their study topics, females tend to express a stronger agreement with their level of involvement compared to males. This difference underscores the importance of gender in understanding students' engagement in their learning processes.

Table 9: Crosstab – "I am involved in choosing the topics I study in my courses."											
	Strongly Disagree	Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	1	4	3	4	81	22	26	107	13	10	271
Male	1	3	2	4	37	8	10	53	14	9	141
Total	2	7	5	8	118	30	36	160	27	19	412

The Chi-Square test results indicate no statistically significant relationship between the analyzed variables. The Pearson Chi-Square value is 8.540 with 9 degrees of freedom, resulting in an asymptotic significance of 0.481, which is significantly higher than the typical threshold of 0.05. Likewise, the likelihood ratio is 8.263, with a significance level of 0.508, further confirming the absence of a significant relationship. The linear-by-linear association value is 0.698, with a significance of 0.403, indicating no meaningful linear trend between the variables. Additionally, it's important to note that 35% of the cells in the analysis had expected counts below 5, with the lowest expected count being 0.68. This limitation suggests that caution is needed when interpreting the results, as low expected counts can affect the reliability of the findings. Overall, these results imply a lack of a meaningful association, which may require further investigation with a more balanced dataset.

Table 10: Chi-Square Tests – "I am involved in choosing the topics I study in my courses."			
	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	8.540[e]	9	0.481
Likelihood Ratio	8.263	9	0.508
Linear-by-Linear Association	0.698	1	0.403
N of Valid Cases	412		
e. 7 cells (35.0%) have expected count less than 5. The minimum expected count is .68.			

4.6 I decide how to approach solving problems or assignments

Pertaining to students' autonomy in deciding how to approach solving problems or assignments, the crosstab data provides a detailed examination categorized by gender. Among the 412 participants, females (271) exhibit a diverse range of responses, with the highest count in the "Agree" category (120), followed by "Slightly Agree" (46) and "Neutral" (40). In contrast, male respondents (141) show a different distribution, with "Neutral" (29) as their most common response, followed by "Agree" (47) and "Slightly Agree" (14). Both genders report low counts in the "Strongly Disagree" and "Completely Agree" categories, indicating that while many students feel reasonably confident in deciding their approach to problem-solving, females generally express a stronger sense of autonomy compared to males. This variation highlights the significance of gender in understanding students' decision-making processes in their learning activities.

Table 11: Crosstab – "I decide how to approach solving problems or assignments."											
	Strongly Disagree	Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	2	2	2	5	40	23	46	120	19	12	271
Male	3	1	1	4	29	14	13	47	18	11	141
Total	5	3	3	9	69	37	59	167	37	23	412

The results of the Chi-Square tests indicate a potential association between the examined variables, though it does not reach statistical significance. The Pearson Chi-Square value is 15.925 with 9 degrees of freedom, yielding an asymptotic significance of 0.068, which is close to but above the conventional threshold of 0.05. Similarly, the likelihood ratio is 15.885, with a significance level of 0.069, further suggesting a lack of strong evidence for a significant relationship. The linear-by-linear association value is 0.567, with a significance of 0.452, indicating no significant linear trend between the variables. It is also important to note that 35% of the cells in the analysis had expected counts of less than 5, with a minimum expected count of 1.03. This limitation implies that caution should be exercised in interpreting the results, as low expected counts can compromise the reliability of the findings. Overall, while the results suggest a potential association, further investigation with a more balanced dataset may be necessary.

Table 12: Chi-Square Tests – "I decide how to approach solving problems or assignments."			
	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.925[a]	9	0.068
Likelihood Ratio	15.885	9	0.069
Linear-by-Linear Association	0.567	1	0.452
N of Valid Cases	412		
a. 7 cells (35.0%) have expected count less than 5. The minimum expected count is 1.03.			

4.7 I set specific goals for my learning and plan how to achieve them

Regarding students' practices in goal setting and planning for their learning, the crosstab data yields interesting results categorized by gender. Among the 412 participants, females (271) demonstrate a broad spectrum of responses, with the highest count in the "Agree" category (120), followed by "Strongly Agree" (41) and "Slightly Agree" (30). In contrast, male respondents (141) show a different distribution, with "Agree" (55) as their most common response, followed by "Slightly Agree" (22) and "Neutral" (15). Both genders report low counts in the "Strongly Disagree" and "Completely Agree" categories, indicating that while many students actively set specific goals and plan how to achieve them, females generally express a stronger commitment to these practices compared to males. This variation underscores the importance of gender in understanding students' goal-setting behaviors in their learning processes.

Table 13: Crosstab – "I set specific goals for my learning and plan how to achieve them."											
	Strongly Disagree	Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	1	0	3	4	35	12	30	120	41	25	271
Male	1	1	1	2	15	8	22	55	22	14	141
Total	2	1	4	6	50	20	52	175	63	39	412

The results of the Chi-Square tests suggest a potential association between the variables examined, though the findings do not reach statistical significance. The Pearson Chi-Square value is 5.168, with 9 degrees of freedom, yielding an asymptotic significance of 0.819, indicating a lack of strong evidence for a significant relationship. The likelihood ratio is slightly higher at 5.350, also with 9 degrees of freedom, producing a significance level of 0.803. Additionally, the linear-by-linear association value is 0.027, with a significance of 0.870, showing no significant linear trend between the variables. It is noteworthy that 40% of the cells in the analysis had expected counts of less than 5, with a minimum expected count of 0.34. This limitation suggests that caution should be exercised in interpreting the results, as low expected counts can compromise the reliability of the findings. Overall, while the results hint at a possible association, further investigation with a more balanced dataset may be warranted.

Table 14: Chi-Square Tests – "I set specific goals for my learning and plan how to achieve them."			
	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.168[g]	9	0.819
Likelihood Ratio	5.350	9	0.803
Linear-by-Linear Association	0.027	1	0.870
N of Valid Cases	412		
g. 8 cells (40.0%) have expected count less than 5. The minimum expected count is .34.			

4.8 I regularly review and adjust my learning plans based on my progress

Concerning students' practices in learning plan adjustments, the crosstab data reveals notable differences categorized by gender among the 412 participants. Female respondents (271) display a wide range of responses, with the highest count in the "Agree" category (131), followed by "Neutral" (42) and "Somewhat Agree" (26). In contrast, male respondents (141) have a different distribution, where "Agree" (58) is their most common response, followed by "Neutral" (26) and "Slightly Agree" (17). Both genders report low counts in the "Strongly Disagree" and "Completely Agree" categories, suggesting that while many students recognize the importance of regularly reviewing their learning plans, females tend to show a stronger inclination

toward this practice compared to males. This difference highlights the relevance of gender in understanding how students engage with their learning processes.

Table 15: Crosstab – "I regularly review and adjust my learning plans based on my progress."

	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	2	0	4	42	22	26	131	26	18	271
Male	2	2	2	26	8	17	58	14	12	141
Total	4	2	6	68	30	43	189	40	30	412

The results of the Chi-Square tests indicate no significant association between the examined variables. The Pearson Chi-Square value is 7.579, with 8 degrees of freedom, yielding an asymptotic significance of 0.476, which suggests a lack of strong evidence for a relationship. Similarly, the likelihood ratio statistic is 8.022, also with 8 degrees of freedom, resulting in a significance level of 0.431. The linear-by-linear association statistic is 0.803, with a significance of 0.370, further reinforcing the absence of a significant linear trend between the variables. It is important to note that 6 cells (33.3%) had expected counts of less than 5, with a minimum expected count of 0.68. This limitation indicates that caution should be exercised in interpreting the results, as low expected counts can affect the reliability of the findings. Overall, the data do not support a significant association, suggesting the need for further investigation with a more robust dataset.

Table 16: Chi-Square Tests – "I regularly review and adjust my learning plans based on my progress."

	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.579[h]	8	0.476
Likelihood Ratio	8.022	8	0.431
Linear-by-Linear Association	0.803	1	0.370
N of Valid Cases	412		

h. 6 cells (33.3%) have expected count less than 5. The minimum expected count is 0.68.

4.9 The teaching methods at my school promote independent learning

Regarding students' perceptions of whether teaching methods at their school promote independent learning, the crosstab data reveals significant differences categorized by gender among the 412 participants. Female respondents (271) exhibit a diverse array of responses, with the highest count in the "Agree" category (86), followed by "Neutral" (61) and "Somewhat Agree" (39). In contrast, male respondents (141) show a different distribution, with "Agree" (48) as their most common response, followed by "Neutral" (38) and "Slightly Disagree" (6). Both genders report low counts in the "Strongly Disagree" and "Completely Agree" categories, indicating that while many students recognize the effectiveness of teaching methods in fostering independent learning, females generally express more positive perceptions compared to males. This variation underscores the importance of gender in understanding students' views on the impact of teaching methods in their learning experiences.

Table 17: Crosstab – "The teaching methods at my school promote independent learning."

	Strongly Disagree	Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	4	16	8	4	61	25	39	86	11	17	271
Male	2	7	4	6	38	9	10	48	6	11	141
Total	6	23	12	10	99	34	49	134	17	28	412

The results of the Chi-Square tests indicate no significant association between the examined variables. The Pearson Chi-Square value is 9.407, with 9 degrees of freedom, yielding an asymptotic significance of 0.401, which suggests a lack of strong evidence for a relationship. The likelihood ratio also shows a value of 9.612, with the same degrees of freedom, resulting in a significance level of 0.383. Additionally, the linear-by-linear association statistic is 0.005, with a significance of 0.943, indicating no significant linear trend between the variables. It is important to note that 4 cells (20.0%) had expected counts of less than 5, with a minimum expected count of 2.05. This limitation suggests caution in interpreting the results, as low expected counts can compromise the reliability of the findings. Overall, the data do not support a significant association, indicating the need for further investigation with a more robust dataset.

Table 18: Chi-Square Tests – "The teaching methods at my school promote independent learning."			
	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.407[i]	9	0.401
Likelihood Ratio	9.612	9	0.383
Linear-by-Linear Association	0.005	1	0.943
N of Valid Cases	412		
i. 4 cells (20.0%) have expected count less than 5. The minimum expected count is 2.05.			

4.10 I receive regular feedback that helps me improve my learning strategies

The crosstab data regarding students' perceptions of receiving regular feedback to improve their learning strategies reveals notable differences by gender among the 412 participants. Female respondents (271) exhibit a diverse range of responses, with the highest count in the "Agree" category (125), followed by "Neutral" (53) and "Somewhat Agree" (31). In contrast, male respondents (141) show a different distribution, with "Agree" (60) as their most common response, followed by "Neutral" (28) and "Slightly Agree" (20). Both genders report low counts in the "Strongly Disagree" and "Completely Agree" categories, indicating that while many students recognize the value of regular feedback in enhancing their learning strategies, females generally express a more positive perception compared to males. This difference highlights the importance of gender in understanding how students perceive the role of feedback in their learning processes.

Table 19: Crosstab – "I receive regular feedback that helps me improve my learning strategies."											
	Strongly Disagree	Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	1	2	1	4	53	18	31	125	20	16	271
Male	2	1	1	0	28	10	20	60	8	11	141
Total	3	3	2	4	81	28	51	185	28	27	412

The results of the Chi-Square tests indicate that there is no significant association between the variables examined. The Pearson Chi-Square value is 5.473, with 9 degrees of freedom, resulting in an asymptotic significance of 0.791, which suggests a lack of evidence for a relationship. Similarly, the likelihood ratio is 6.626, also with 9 degrees of freedom, yielding a significance level of 0.676. Additionally, the linear-by-linear association statistic is 0.100, with a significance of 0.752, indicating no significant linear trend between the variables. It is noteworthy that 8 cells (40.0%) had expected counts of less than 5, with the minimum expected count being 0.68. This limitation highlights the need for caution in interpreting the results, as low expected counts can affect the reliability of the findings. Overall, the data do not support a significant association, suggesting that further investigation with a more balanced dataset may be necessary.

Table 20: Chi-Square Tests – "I receive regular feedback that helps me improve my learning strategies."			
	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.473[j]	9	0.791
Likelihood Ratio	6.626	9	0.676
Linear-by-Linear Association	0.100	1	0.752
N of Valid Cases	412		
j. 8 cells (40.0%) have expected count less than 5. The minimum expected count is .68.			

4.11 My school provides adequate resources for self-directed learning

The crosstab data regarding students' perceptions of the adequacy of resources provided by their school for self-directed learning reveals important differences categorized by gender among the 412 participants. Female respondents (271) demonstrate a wide range of opinions, with the highest count in the "Agree" category (98), followed by "Strongly Agree" (35) and "Neutral" (46). In contrast, male respondents (141) have a different distribution, where "Agree" (49) is also their most common response, followed by "Neutral" (26) and "Strongly Agree" (17). Both genders report low counts in the "Strongly Disagree" and "Completely Agree" categories, indicating that while many students believe their school provides adequate

resources for self-directed learning, females tend to express more positive evaluations compared to males. This difference highlights the significance of gender in understanding students' perceptions of resource availability in their learning environments.

Table 21: Crosstab – "My school provides adequate resources (e.g., books, online materials) for self-directed learning."

	Strongly Disagree	Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	4	10	4	8	46	12	26	98	35	28	271
Male	2	3	2	6	26	9	13	49	14	17	141
Total	6	13	6	14	72	21	39	147	49	45	412

The results of the Chi-Square tests indicate that there is no significant association between the variables examined. The Pearson Chi-Square value is 3.008, with 9 degrees of freedom, resulting in an asymptotic significance of 0.964, suggesting a lack of evidence for a relationship. The likelihood ratio also supports this finding, with a value of 3.035 and an asymptotic significance of 0.963. Additionally, the linear-by-linear association statistic is 0.014, with a significance of 0.905, indicating no significant linear trend between the variables. Notably, 6 cells (30.0%) had expected counts of less than 5, with a minimum expected count of 2.05. This limitation emphasizes the need for caution in interpreting the results, as low expected counts can affect the reliability of the findings. Overall, the data do not support a significant association, indicating that further investigation may be necessary to draw more conclusive insights.

Table 22: Chi-Square Tests – "My school provides adequate resources (e.g., books, online materials) for self-directed learning."

	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	3.008[k]	9	0.964
Likelihood Ratio	3.035	9	0.963
Linear-by-Linear Association	0.014	1	0.905
N of Valid Cases	412		

k. 6 cells (30.0%) have expected count less than 5. The minimum expected count is 2.05.

4.12 I have access to technology that supports my independent learning

The crosstab data concerning students' access to technology that supports independent learning reveals distinct differences categorized by gender among the 412 participants. Female respondents (271) display a diverse range of responses, with the highest count in the "Agree" category (109), followed by "Neutral" (48) and "Somewhat Agree" (27). In contrast, male respondents (141) show a different distribution, where "Agree" (55) is also their most common response, followed by "Neutral" (26) and "Slightly Disagree" (7). Both genders report low counts in the "Strongly Disagree" and "Completely Agree" categories, indicating that while many students feel they have access to technology that facilitates their independent learning, females tend to express more positive perceptions compared to males. This variation highlights the significance of gender in understanding students' views on the availability of technological resources for their learning.

Table 23: Crosstab – "I have access to technology that supports my independent learning (e.g., computers, internet)."

	Strongly Disagree	Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	2	5	7	7	48	19	27	109	24	23	271
Male	3	4	1	7	26	7	11	55	15	12	141
Total	5	9	8	14	74	26	38	164	39	35	412

The results of the Chi-Square tests indicate no significant association between the variables examined. The Pearson Chi-Square value is 6.577, with 9 degrees of freedom, resulting in an asymptotic significance of 0.681, which suggests a lack of evidence for a relationship. Similarly, the likelihood ratio is 6.721, also with 9 degrees of freedom, yielding a significance level of 0.666. Additionally, the linear-by-linear association statistic is 0.233, with a significance of 0.629, indicating no significant linear trend between the variables. It is important to note that 5 cells (25.0%) had expected counts of less than 5, with a minimum expected count of 1.71. This limitation highlights the need for caution in interpreting the results, as low expected counts can impact the reliability of the findings. Overall, the data do not support a significant association, suggesting that further investigation may be needed to explore the relationships more conclusively.

Table 24: Chi-Square Tests – "I have access to technology that supports my independent learning (e.g., computers, internet)."			
	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.577[l]	9	0.681
Likelihood Ratio	6.721	9	0.666
Linear-by-Linear Association	0.233	1	0.629
N of Valid Cases	412		
l. 5 cells (25.0%) have expected count less than 5. The minimum expected count is 1.71.			

4.13 My parents support my efforts to learn independently

The crosstab data regarding students' perceptions of parental support for their independent learning reveals notable differences categorized by gender among the 412 participants. Female respondents (271) demonstrate a wide range of responses, with the highest count in the "Agree" category (124), followed by "Strongly Agree" (46) and "Neutral" (33). In contrast, male respondents (141) show a different distribution, where "Agree" (53) is their most common response, followed by "Neutral" (25) and "Strongly Agree" (22). Both genders report low counts in the "Strongly Disagree" and "Completely Agree" categories, indicating that while many students feel supported by their parents in their independent learning efforts, females generally express a more positive perception compared to males. This variation highlights the importance of gender in understanding students' views on parental involvement in their learning processes.

Table 25: Crosstab – "My parents support my efforts to learn independently."											
	Strongly Disagree	Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	1	2	5	3	33	15	15	124	27	46	271
Male	1	3	2	4	25	3	15	53	13	22	141
Total	2	5	7	7	58	18	30	177	40	68	412

The results of the Chi-Square tests suggest no significant association between the variables analyzed. The Pearson Chi-Square value is 12.842, with 9 degrees of freedom, yielding an asymptotic significance of 0.170, which indicates a lack of strong evidence for a relationship. Similarly, the likelihood ratio statistic is 12.743, also with 9 degrees of freedom, resulting in a significance level of 0.175. Additionally, the linear-by-linear association statistic is 3.071, with a significance of 0.080, which, while relatively close to significance, does not meet conventional thresholds. It is important to note that 8 cells (40.0%) had expected counts of less than 5, with a minimum expected count of 0.68. This limitation emphasizes the need for caution in interpreting the results, as low expected counts can undermine the reliability of the findings. Overall, the data do not support a significant association, suggesting that further research may be necessary to explore the relationships more comprehensively.

Table 26: Chi-Square Tests – "My parents support my efforts to learn independently."			
	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	12.842[m]	9	0.170
Likelihood Ratio	12.743	9	0.175
Linear-by-Linear Association	3.071	1	0.080
N of Valid Cases	412		
m. 8 cells (40.0%) have expected count less than 5. The minimum expected count is .68.			

4.14 My parents encourage me to set and achieve my own learning goals

The crosstab data regarding students' perceptions of parental encouragement to set and achieve their own learning goals reveals significant differences categorized by gender among the 412 participants. Female respondents (271) show a broad range of responses, with the highest count in the "Agree" category (113), followed by "Strongly Agree" (55) and "Neutral" (27). In contrast, male respondents (141) exhibit a different distribution, where "Agree" (59) is their most common response, followed by "Strongly Agree" (30) and "Neutral" (20). Both genders report low counts in the "Strongly Disagree" and "Completely Agree" categories, indicating that while many students feel supported by their parents in setting and achieving their learning

goals, females generally express a more positive perception compared to males. This difference underscores the significance of gender in understanding students' views on parental involvement in their educational aspirations.

Table 27: Crosstab – "My parents encourage me to set and achieve my own learning goals."

	Strongly Disagree	Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	2	3	1	3	27	6	14	113	47	55	271
Male	2	1	1	3	20	1	9	59	15	30	141
Total	4	4	2	6	47	7	23	172	62	85	412

The results of the Chi-Square tests indicate no significant association between the variables analyzed. The Pearson Chi-Square value is 7.223, with 9 degrees of freedom, yielding an asymptotic significance of 0.614, which suggests a lack of evidence for a relationship. Similarly, the likelihood ratio statistic is 7.470, also with 9 degrees of freedom, resulting in a significance level of 0.588. Additionally, the linear-by-linear association statistic is 1.585, with a significance of 0.208, further confirming the absence of a significant linear trend between the variables. It is important to note that 10 cells (50.0%) had expected counts of less than 5, with a minimum expected count of 0.68, highlighting a limitation in the analysis that warrants caution in interpretation. Overall, the data do not support a significant association, suggesting that further research may be needed to explore the relationships more thoroughly.

Table 28: Chi-Square Tests – "My parents encourage me to set and achieve my own learning goals."

	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.223[n]	9	0.614
Likelihood Ratio	7.470	9	0.588
Linear-by-Linear Association	1.585	1	0.208
N of Valid Cases	412		

n. 10 cells (50.0%) have expected count less than 5. The minimum expected count is .68.

4.15 The cultural attitudes in my community support independent learning

The crosstab data regarding students' perceptions of cultural attitudes in their community supporting independent learning reveals notable differences by gender among the 412 participants. Female respondents (271) exhibit a diverse range of opinions, with the highest count in the "Neutral" category (71), followed by "Agree" (99) and "Somewhat Agree" (34). In contrast, male respondents (141) show a different distribution, where "Agree" (43) is their most common response, followed by "Neutral" (40) and "Slightly Disagree" (5). Both genders report low counts in the "Strongly Disagree" and "Completely Agree" categories, indicating that while many students perceive some level of community support for independent learning, females generally express a more favorable view compared to males. This variation underscores the importance of gender in understanding students' perceptions of cultural attitudes toward learning in their communities.

Table 29: Crosstab – "The cultural attitudes in my community support independent learning."

	Strongly Disagree	Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	0	7	4	9	71	20	34	99	9	18	271
Male	3	2	2	5	40	8	22	43	9	7	141
Total	3	9	6	14	111	28	56	142	18	25	412

The results of the Chi-Square tests indicate that there is no significant association between the variables examined. The Pearson Chi-Square value is 10.955, with 9 degrees of freedom, yielding an asymptotic significance of 0.279, which suggests a lack of evidence for a relationship. The likelihood ratio further supports this conclusion, showing a value of 11.595, also with 9 degrees of freedom, resulting in a significance level of 0.237. Additionally, the linear-by-linear association statistic is 0.598, with a significance of 0.439, indicating no significant linear trend between the variables. Notably, 6 cells (30.0%) had expected counts of less than 5, with a minimum expected count of 1.03. This limitation underscores the need for caution in interpreting the results, as low expected counts can compromise the reliability of the findings. Overall, the data do not support a significant association, suggesting that further investigation may be necessary to explore these relationships more comprehensively.

Table 30: Chi-Square Tests – "The cultural attitudes in my community support independent learning."			
	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.955[o]	9	0.279
Likelihood Ratio	11.595	9	0.237
Linear-by-Linear Association	0.598	1	0.439
N of Valid Cases	412		
o. 6 cells (30.0%) have expected count less than 5. The minimum expected count is 1.03.			

4.16 There is a strong emphasis rote learning in my educational environment

The crosstab data regarding students' perceptions of the emphasis on rote learning in their educational environment reveals distinct differences by gender among the 412 participants. Female respondents (271) display a wide range of responses, with the highest count in the "Neutral" category (59), followed by "Agree" (81) and "Slightly Disagree" (25). In contrast, male respondents (141) show a different distribution, where "Agree" (41) is the most common response, followed by "Neutral" (25) and "Strongly Agree" (13). Both genders report relatively low counts in the "Strongly Disagree" and "Completely Agree" categories. This data suggests that while many students acknowledge the presence of rote learning in their educational settings, females tend to express a more critical view compared to males, indicating important gender differences in perceptions of teaching methods.

Table 31: Crosstab – "There is a strong emphasis on rote learning in my educational environment."											
	Strongly Disagree	Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	6	15	13	25	59	17	31	81	12	12	271
Male	7	6	9	6	25	10	14	41	10	13	141
Total	13	21	22	31	84	27	45	122	22	25	412

The results of the Chi-Square tests indicate that there is no significant association between the examined variables. The Pearson Chi-Square value is 11.797, with 9 degrees of freedom, yielding an asymptotic significance of 0.225, which suggests a lack of evidence for a meaningful relationship. Similarly, the likelihood ratio is 11.745, also with 9 degrees of freedom, resulting in a significance level of 0.228, further supporting the absence of a significant association. The linear-by-linear association statistic is 1.061, with a significance of 0.303, indicating no significant linear trend between the variables. Notably, only 1 cell (5.0%) had an expected count of less than 5, with a minimum expected count of 4.45, which minimizes concerns about the reliability of the findings. Overall, the data do not support a significant association, suggesting that further research may be necessary to explore these relationships more thoroughly.

Table 32: Chi-Square Tests – "There is a strong emphasis on rote learning in my educational environment."			
	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	11.797[p]	9	0.225
Likelihood Ratio	11.745	9	0.228
Linear-by-Linear Association	1.061	1	0.303
N of Valid Cases	412		
p. 1 cells (5.0%) have expected count less than 5. The minimum expected count is 4.45.			

4.17 I believe that my ability to learn autonomously positively affects my academic performance

The crosstab data regarding students' beliefs about the impact of their ability to learn autonomously on their academic performance reveals notable gender differences among the 412 participants. Female respondents (271) exhibit a diverse range of opinions, with the highest count in the "Agree" category (116), followed by "Neutral" (50) and "Somewhat Agree" (28). In contrast, male respondents (141) show a different distribution, where "Neutral" (29) is their most common response, followed by "Agree" (51) and "Strongly Agree" (19). Both genders report low counts in the "Strongly Disagree" and "Completely Agree" categories. This data suggests that while many students recognize a positive correlation between their autonomous learning skills and academic performance, females tend to express stronger confidence in this relationship compared to males, highlighting the importance of gender in understanding students' perspectives on their learning capabilities.

Table 33: Crosstab – "I believe that my ability to learn autonomously positively affects my academic performance."											
	Strongly Disagree	Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	1	1	4	2	50	22	28	116	26	21	271
Male	0	2	3	1	29	9	13	51	19	14	141
Total	1	3	7	3	79	31	41	167	45	35	412

The results of the Chi-Square tests indicate no significant association between the variables analyzed. The Pearson Chi-Square value is 5.664, with 9 degrees of freedom, resulting in an asymptotic significance of 0.773, which suggests a lack of evidence for a meaningful relationship. Similarly, the likelihood ratio is 5.855, also with 9 degrees of freedom, yielding a significance level of 0.754, further confirming the absence of a significant association. The linear-by-linear association statistic is 0.000, with a significance of 0.983, indicating no significant linear trend between the variables. Additionally, it is noteworthy that 8 cells (40.0%) had expected counts of less than 5, with a minimum expected count of 0.34, which raises concerns about the reliability of the findings. Overall, the data do not support a significant association, suggesting that further investigation may be necessary to explore these relationships in greater depth.

Table 34: Chi-Square Tests – "I believe that my ability to learn autonomously positively affects my academic performance."			
	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.664[q]	9	0.773
Likelihood Ratio	5.855	9	0.754
Linear-by-Linear Association	0.000	1	0.983
N of Valid Cases	412		
q. 8 cells (40.0%) have expected count less than 5. The minimum expected count is .34.			

4.18 I perform better in assignments and exams when I take charge of my own learning

The crosstab data regarding students' perceptions of their performance in assignments and exams when they take charge of their own learning reveals distinct gender differences among the 412 participants. Female respondents (271) demonstrate a wide range of responses, with the highest count in the "Agree" category (123), followed by "Strongly Agree" (33) and "Slightly Agree" (26). In contrast, male respondents (141) show a different distribution, where "Agree" (53) is their most common response, followed by "Neutral" (28) and "Strongly Agree" (23). Both genders report low counts in the "Strongly Disagree" and "Disagree" categories, suggesting that many students recognize the positive impact of taking charge of their learning on their academic performance. However, females generally express a stronger belief in this correlation compared to males, highlighting the significance of gender in understanding students' attitudes towards self-directed learning.

Table 35: Crosstab – "I perform better in assignments and exams when I take charge of my own learning."											
	Strongly Disagree	Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	1	1	3	2	29	18	26	123	35	33	271
Male	2	1	0	0	28	3	13	53	18	23	141
Total	3	2	3	2	57	21	39	176	53	56	412

The results of the Chi-Square tests indicate a potential association between the variables analyzed, although it does not reach conventional statistical significance. The Pearson Chi-Square value is 16.057, with 9 degrees of freedom, yielding an asymptotic significance of 0.066, which is close to the 0.05 threshold for significance. The likelihood ratio further suggests a noteworthy relationship, showing a value of 17.836 with a significance level of 0.037, indicating some evidence of an association. However, the linear-by-linear association statistic is 0.377, with a significance of 0.539, implying no significant linear trend between the variables. Additionally, it is important to note that 8 cells (40.0%) had expected counts of less than 5, with a minimum expected count of 0.68, which raises concerns about the reliability of the findings. Overall, while there is some indication of a potential association, the results suggest that further investigation may be needed to draw more definitive conclusions.

Table 36: Chi-Square Tests – "I perform better in assignments and exams when I take charge of my own learning."			
	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	16.057[r]	9	0.066
Likelihood Ratio	17.836	9	0.037
Linear-by-Linear Association	0.377	1	0.539
N of Valid Cases	412		
r. 8 cells (40.0%) have expected count less than 5. The minimum expected count is .68.			

4.19 My experiences with learner autonomy have increased my confidence in my abilities

The crosstab data concerning students' experiences with learner autonomy and its impact on their confidence reveals notable gender differences among the 412 participants. Female respondents (271) show a broad range of responses, with the highest count in the "Agree" category (120), followed by "Neutral" (36) and "Somewhat Agree" (27). In contrast, male respondents (141) display a different distribution, where "Agree" (55) is the most common response, followed by "Neutral" (25) and "Strongly Agree" (19). Both genders report low counts in the "Strongly Disagree" and "Disagree" categories, indicating that many students recognize the positive influence of learner autonomy on their confidence levels. However, females generally express a stronger belief in this connection compared to males, highlighting the significance of gender in understanding students' perceptions of their learning experiences and self-efficacy.

Table 37: Crosstab – "My experiences with learner autonomy have increased my confidence in my abilities."											
	Strongly Disagree	Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	1	1	4	1	36	16	27	120	33	32	271
Male	1	1	1	2	25	8	13	55	16	19	141
Total	2	2	5	3	61	24	40	175	49	51	412

The results of the Chi-Square tests indicate no significant association between the variables under examination. The Pearson Chi-Square value is 4.463, with 9 degrees of freedom, yielding an asymptotic significance of 0.878, which suggests a lack of evidence for a meaningful relationship. Similarly, the likelihood ratio is 4.361, also with 9 degrees of freedom, resulting in a significance level of 0.886, further reinforcing the absence of a significant association. The linear-by-linear association statistic is 0.660, with a significance of 0.416, indicating no significant linear trend between the variables. Additionally, it is important to note that 8 cells (40.0%) had expected counts of less than 5, with a minimum expected count of 0.68, which raises concerns regarding the reliability of the findings. Overall, these results suggest that further research may be necessary to explore the relationships more comprehensively.

Table 38: Chi-Square Tests – "My experiences with learner autonomy have increased my confidence in my abilities."			
	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	4.463[s]	9	0.878
Likelihood Ratio	4.361	9	0.886
Linear-by-Linear Association	0.660	1	0.416
N of Valid Cases	412		
s. 8 cells (40.0%) have expected count less than 5. The minimum expected count is 0.68.			

4.20 I feel more capable of solving problems independently as a result of learning autonomously

The crosstab data regarding students' feelings of capability in solving problems independently as a result of learning autonomously reveals significant differences between genders among the 412 participants. Female respondents (271) demonstrate a varied distribution of responses, with the highest count in the "Slightly Agree" category (66), followed by "Agree" (82) and "Neutral" (30). In contrast, male respondents (141) exhibit a different pattern, where "Disagree" (9) is the most common response, followed by "Neutral" (30) and "Agree" (47). Both genders report low counts in the "Strongly Disagree" and "Completely Agree" categories, suggesting that while many students recognize an increase in their problem-solving capabilities through

autonomous learning, females generally express a stronger sense of confidence in this area compared to males. This finding underscores the importance of gender in understanding students' perceptions of their independent learning experiences.

Table 39: Crosstab – "I feel more capable of solving problems independently as a result of learning autonomously."

	Strongly Disagree	Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Completely Agree	Total
Female	2	7	9	14	66	30	33	82	13	15	271
Male	0	9	1	7	30	12	17	47	9	9	141
Total	2	16	10	21	96	42	50	129	22	24	412

The Chi-Square test results indicate no significant association between the variables analyzed. The Pearson Chi-Square value is 8.909, with 9 degrees of freedom, yielding an asymptotic significance of 0.446, which suggests that there is insufficient evidence to support a meaningful relationship. The likelihood ratio also reflects a similar trend, with a value of 9.915 and a significance level of 0.357. Furthermore, the linear-by-linear association statistic is 0.467, with a significance of 0.495, indicating no significant linear trend between the variables. It is important to note that 3 cells (15.0%) had expected counts of less than 5, with a minimum expected count of 0.68, raising concerns about the reliability of the results. Overall, these findings suggest that further investigation may be necessary to explore potential relationships more thoroughly.

Table 40: Chi-Square Tests – ""I feel more capable of solving problems independently as a result of learning autonomously."

	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	8.909ᵗ	9	0.446
Likelihood Ratio	9.915	9	0.357
Linear-by-Linear Association	0.467	1	0.495
N of Valid Cases	412		
t. 3 cells (15.0%) have expected count less than 5. The minimum expected count is 0.68.			

5. Conclusion and Recommendation

5.1 Conclusion

The analysis of students' perceptions regarding their learning autonomy reveals notable gender differences across various dimensions, including goal setting, self-monitoring, and perceptions of support from both school and parents. Drawing from a sample of 412 participants, the findings indicate that female students generally report feeling more autonomous than their male counterparts, particularly in setting personal learning goals and monitoring their progress. Significant numbers of females expressed agreement with statements related to their motivation to learn independently and proactive engagement in resource-seeking. However, Chi-Square tests showed no statistically significant relationships between gender and abilities related to goal setting or progress monitoring, suggesting that while trends are observable, caution is warranted due to the low expected counts in some analysis cells.

Moreover, the perceptions of support for independent learning within the school context reveal similar gender disparities. Females tended to have more positive views regarding the effectiveness of teaching methods, the regularity and helpfulness of feedback, and the adequacy of resources for self-directed learning. For instance, 86 females agreed with the effectiveness of teaching methods compared to lower counts among males. Yet, Chi-Square tests also indicated no significant associations between gender and these perceptions, as high p-values suggested a lack of evidence for meaningful relationships. This underscores the need for cautious interpretation due to potential limitations in data distribution.

In terms of parental support, female respondents reported significantly higher levels of agreement regarding parental encouragement to set learning goals and general support for independent learning. Specifically, 124 females agreed with statements about parental support, while only 53 males did. However, similar to previous analyses, Chi-Square tests revealed no significant associations between gender and perceptions of parental support, again indicating the necessity for careful interpretation of results due to low expected counts in certain cells.

Students also expressed varied beliefs about learner autonomy. Female respondents were more likely to express confidence in the positive impact of their ability to learn independently on their academic performance, with 116 agreeing with this sentiment compared to 51 males. Both genders acknowledged the benefits of taking charge of their learning, but females consistently reported higher levels of agreement regarding their confidence and problem-solving capabilities derived from autonomous learning experiences. Nevertheless, Chi-Square tests indicated no significant associations for most statements related to learner autonomy, suggesting a lack of strong evidence linking gender to these perceptions.

In summary, while the analysis reveals trends indicating that female students perceive higher levels of autonomy and support for independent learning compared to males, the absence of statistically significant associations calls for a cautious interpretation of these results. These findings highlight the complexity of understanding gender differences in educational contexts and suggest a pressing need for further research with more balanced datasets. This additional exploration may provide deeper insights into the relationships between gender and perceptions of autonomy, ultimately informing strategies to enhance learning experiences for all students.

5.2 Recommendations

Based on the analysis of students' perceptions regarding learning autonomy and the notable gender differences observed, several recommendations can be made for educators, learners, and their parents.

For Educators: It is essential for educators to foster an inclusive learning environment that encourages both male and female students to engage in goal setting and self-monitoring. Teachers can implement differentiated instruction strategies that cater to diverse learning styles and promote autonomy. Regular feedback should be tailored to meet the needs of all students, with a focus on encouraging independent learning. Educators might also consider integrating collaborative learning experiences that allow students to share resources and strategies, thus enhancing peer support and engagement. Additionally, professional development for educators could focus on understanding and addressing gender differences in learning preferences and perceptions of autonomy.

For Learners: Students should be encouraged to take ownership of their learning by actively setting personal goals and monitoring their progress. Engaging in self-reflection can help students identify their strengths and areas for improvement. Moreover, they can benefit from seeking out resources and support, whether from peers, teachers, or parents. It is vital for students to recognize that autonomy in learning can significantly impact their academic performance and problem-solving abilities. Participating in discussions about learning styles and preferences can also empower students to advocate for their own educational needs.

For Parents: Parents play a crucial role in supporting their children's learning autonomy. Encouraging open communication about educational goals and challenges can help children feel supported and motivated. Parents should actively engage in discussions about their child's academic progress and encourage them to set realistic, achievable goals. Additionally, providing resources for independent learning—such as books, technology, and study spaces—can enhance their child's ability to learn autonomously. Parents should also be mindful of gender differences in their children's learning experiences, ensuring that both daughters and sons receive equal encouragement and support in pursuing their academic interests.

In summary, addressing the observed gender differences in perceptions of learning autonomy requires a collaborative approach involving educators, learners, and parents. By fostering an environment that values independence and supports diverse learning needs, all students can benefit from a more equitable and enriching educational experience.

References

[1]Chheang, L. (2012). Gender Issue in Education in Cambodia. Retrieved from file:///C:/Users/Admin/Downloads/[%EC%A3%BC%EA%B0%84%EC%9D%B4%EC%8A%88%EB%B6%84%EC%84%9D_20121220]CHHEANG+Lapy_Gender+Issue+in+Education+in+Cambodia.pdf

[2]Chea, P., Tek, M., & Nok, S. (2023). Gender Gap Reversal in Learning and Gender-Responsive Teaching in Cambodia. CDRI Working Paper Series No. 141, Cambodia Development Resource Institute (CDRI), Phnom Penh. Retrieved from https://cdri.org.kh/storage/pdf/Wp141_Gender%20Gap%20Reversal%20and%20GRP_1690449269.pdf

[3]Educational Development Trust. (2024, February 08). Examining improvements to girls' education in Cambodia through a gender-responsive lens. Retrieved September 29, 2024, from https://www.edt.org: https://www.edt.org/research-and-insights/examining-improvements-to-girls-education-in-cambodia-through-a-gender-responsive-lens/

[4]Ngath, S., Eong, D., & Ly, S. (2024, August). Assessing the Impact of Technical, Psychological, Political, and Sociocultural Factors on Learner Autonomy among High School Students in Hun Sen Krong Tep Nimith Pailin High School, Cambodia. International Journal of Research Publication and Reviews, 5(8), 2621-2641. doi: https://doi.org/10.55248/gengpi.5.0824.2151

[5]Oxford University Press ELT. (2013, January 29). Learner Autonomy. Retrieved September 28, 2024, from https://teachingenglishwithoxford.oup.com: https://teachingenglishwithoxford.oup.com/2013/01/29/learner-autonomy/

[6]Littlewood, W. (1996). Autonomy: An anatomy and a framework. System, 24(4), 427-435.

[7]Littlewood, W. (1999). Defining and developing autonomy in East Asian contexts. Applied Linguistics, 20(1), 71-94.

[8]Kumaravadivelu, B. (2003). Beyond methods: Macrostrategies for language teaching. New Haven: Yale University Press.

[9]Dam, L. (2011). Developing learner autonomy with school kids: Principles, practices, results. In D. (. Gardner, Fostering autonomy in language learning (pp. 126-136). Gaziantep: Zirve University.

[10]Esmaili, M. R. (2016). How to develop learner autonomy? Journal of Indonesian Economy and Business (JIEB), 69-72.

[11]Benson, P. (2008). Teachers' and learners' perspectives on autonomy. In T. L. (Eds.), Learner and teacher autonomy: Concepts, realities, and responses (pp. 15-32). Amsterdam: John Benjamins Publishing Company.

[12]Lee, I. (1998). Supporting greater autonomy in language learning. ELT Journal, 52(4), 285-291.

[13]Kolb, A. Y., & Kolb, D. A. (2005). Learning Styles and Learning Spaces: Enhancing Experiential Learning in Higher Education. Academy of Management Learning & Education, 4(2), 193–212. doi: 10.1007/978-1-4419-1428-6_227

[14]Dewey, J. (1897). My pedagogic creed. The school journal, 77– 80.

[15]Hossain, S. A., Manzoor, M. A., & Hashmi, R. (2023). Experiential Learning to Promote Student Autonomy at Elementary Level. Journal of Innovation and Research in Primary Education, 2(1), 1-6. doi:https://doi.org/10.56916/jirpe.v2i1.356

[16]Open Development Cambodia. (2021, June 21). Primary and secondary education. Retrieved September 28, 2024, from https://opendevelopmentcambodia.net: https://opendevelopmentcambodia.net/topics/primary-and-secondary-education/

[17]Trading Economics. (2024, September). Cambodia - Population Of The Official Age For Upper Secondary Education, Both Sexes. Retrieved September 27, 2024, from https://tradingeconomics.com: https://tradingeconomics.com/cambodia/population-of-the-official-age-for-upper-secondary-education-both-sexes-number-wb-data.html