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Motivated Strategies for Learning and Attention Span Levels of Radiologic Technology Students

Jayrouz Y. Mangindra, RRT
Shellford Ann H. Rallon, RRT
Carl Louwel C. Ampig, RRT
Nicole S. Secobus, RRT
Earl John R. Trinidad, RRT

Davao Doctors College

Abstract

This study explores how Radiologic Technology students approach learning by examining their levels of motivation, use of learning strategies, and ability to maintain attention. A descriptive-correlational quantitative research design was used, involving 472 students from various year levels. Using a modified Motivated Strategies for Learning Questionnaire (MSLQ) and Moss Attention Rating Scale (MARS), the study assessed students' time study management, motivation (self-efficacy and test anxiety), and attention span. The findings show that students generally manage their study time well (with an average score of 5.64) and are moderately motivated (average score of 5.51), while also maintaining a strong attention span (average score of 3.77). Further analysis revealed a moderate positive link between the use of learning strategies and attention span, and a stronger positive connection between motivation and attention span. These results suggest that students who use effective learning strategies and stay motivated are more likely to sustain longer attention spans, which can improve their academic performance. The study highlights the importance of nurturing motivation and good time management skills in educational environments. Future research could focus on understanding cause-and-effect relationships and developing strategies to help allied health students enhance their learning outcomes.

Keywords: *Social Science, Learning Strategies, Motivation, Attention Span, Descriptive-Correlational, Davao City*

Corresponding email: earljohntrinidad@davaodoctors.edu.ph
ORCID ID: 0009-0002-2907-8090

Introduction

Motivated learning strategies, which include both cognitive (thinking) and emotional (feeling) aspects, play a key role in achieving academic success. According to Pintrich and Schunk (2019), motivation influences students' persistence and goal-setting behaviors, while self-efficacy is strongly linked to academic achievement (Bandura, 2019).

Attention span, defined as the duration of sustained cognitive focus, directly influences learning efficacy (Brocki & Bohlin, 2019). Studies have shown that in today's digital age, shorter attention spans can impact students' ability to absorb and retain information (Cain & Leonard, 2019). While there is plenty of global research on motivation and

attention, there is a lack of studies specifically focused on Radiologic Technology students, especially in Davao City. This study aims to fill that gap by exploring how motivated learning strategies relate to attention span in this group of students.

This study aimed to determine:

1. What is the level of learning strategies (time study management) among Radiologic Technology students?
2. What is the level of motivation (self-efficacy and test anxiety) among Radiologic Technology students?
3. What is the level of attention span among Radiologic Technology students?
4. Is there a significant relationship between motivated strategies for learning and the attention span of Radiologic Technology students?

Review of Related Literature

Motivation and Learning Strategies

Motivation is essential to learning, as it drives persistence and helps students set and pursue their goals (Pintrich & Schunk, 2019). A key part of motivation is self-efficacy, or the belief in one's abilities, which has been shown to contribute to better academic performance (Bandura, 2019). On the other hand, test anxiety can hinder performance by creating mental distractions (Chen et al., 2020).

Attention Span

Attention span can be shaped by several factors, such as digital distractions, the classroom environment, and individual differences (Brocki & Bohlin, 2019). Cain and Leonard (2019) pointed out that too much screen time can shorten attention spans, while structured environments and hands-on learning strategies can help improve focus (Bohn-Gettler et al., 2021).

Time Study Management

Good time management is closely linked to less academic stress and better performance (Dewi & Tjakraatmadja, 2019). Digital tools, like time-tracking apps, have also been shown to improve students' study habits (Hammarlund & Nilsson, 2020).

Methods

A descriptive correlational design was used to examine the relationship between motivated learning strategies and attention span. The study involved 472 Radiologic Technology students from a private institution in Davao City, selected through random sampling. Two main tools were used in the study: the Motivated Strategies for Learning Questionnaire (MSLQ), created by Pintrich et al. (1991), which assesses students' motivation and use of self-regulated learning strategies; and the Moss Attention Rating Scale (MARS), originally developed by Whyte and Hart (2003), which evaluates attention span based on observable behaviors.

Both instruments demonstrated high reliability and validity in previous studies, making them suitable for this research.

Data were collected via online questionnaires distributed through institutional platforms. Ethical considerations, including informed consent and data confidentiality, were strictly observed. Mean and standard deviation were computed to describe the central tendency and dispersion of time study management scores; mean and standard deviation were also used to summarize self-efficacy and test anxiety scores as well as to determine the level of attention span. Pearson correlation analysis was used to examine the relationship between motivated learning strategies (such as time management, self-efficacy, and test anxiety) and attention span. A significance level of $p < 0.05$ was set to determine whether the observed relationships were statistically meaningful

Results and Discussions

Table 1. The level of Learning Strategies of the Radiologic Technology Students on Academic Year 2023-2024 in terms of Time Study Management:

Indicator	Standard Deviation	Mean	Interpretation
Time Study Management	1.21	5.64	Moderately High

Legend: 6.17-7.00 = Very High, 5.31-6.16 = Moderately High, 4.45-5.30 = High, 3.59-4.44 = Moderate, 2.73-3.58 Moderately Low, 1.87-2.72 = Low, 1.00-1.86 = Very Low

Table 1 reveals that Radiologic Technology students exhibit a moderately high level of learning strategies in Time Study Management, with a mean of 5.64 and a standard deviation of 1.21, indicating varying responses across year levels. These findings are consistent with prior research emphasizing the critical role of time management in medical education, where students face heavy academic workloads and clinical demands (Imam, 2023; Parmeshwar Satpathy et al., 2021). Effective time management enables students to balance study, clinical practice, and personal responsibilities, promoting better academic performance and well-being (Pit et al., 2021).

Table 2. The level of Motivation of the Radiologic Technology Students on Academic Year 2023-2024 in terms of Self-Efficacy and Test-Anxiety.

Indicator	Standard Deviation	Mean	Interpretation
Self-Efficacy	1.12	5.37	Moderately High
Test-Anxiety	1.21	5.64	Moderately High
Over-all	**1.17**	**5.51**	**Moderately High**

Legend: 6.17-7.00 = Very High, 5.31-6.16 = Moderately High, 4.45-5.30 = High, 3.59-4.44 = Moderate, 2.73-3.58 Moderately Low, 1.87-2.72 = Low, 1.00-1.86 = Very Low

Table 2 presents the motivation levels of Radiologic Technology students, showing that self-efficacy and test anxiety have moderately high average scores of 5.37 and 5.64, respectively, with notable variability (SD = 1.12, 1.21). This suggests that while students generally feel confident in their academic abilities, there are differences in their levels of self-efficacy, likely influenced by the pressures they face in both academic and clinical settings (Ali Asghar Hayat et al., 2020). Similarly, the moderately high levels of test anxiety observed are in line with other studies that highlight its impact on academic performance, particularly in health-related fields. These findings point to the importance of creating interventions to better support students in managing test anxiety and boosting their confidence (Wadi et al., 2022).This elevated test anxiety may stem from the high-pressure learning environments shared by medical and radiologic technology students.

Table 3. The level of the attention span of the Radiologic Technology Students on Academic Year 2023-2024?

Indicator	Standard Deviation	Mean	Interpretation
Attention Span	0.85	3.77	High

Legend: 4.21-5.00 = Very High, 3.41-4.20 = High, 2.61-3.40 = Moderate. 1.81-2.60 = Low, 1.00-1.80 = Very Low

Table 3 indicates a high level of attention span among Radiologic Technology students, with a mean of 3.77 and a standard deviation of 0.85. This finding aligns with Cretu et al.'s (2020) study, which highlights that the complex, multitasking nature of medical education enhances students' ability to manage multiple tasks simultaneously. The elevated attention span observed may be attributed to students' exposure to multifaceted tasks, supporting the notion that medical training environments can positively influence attention span levels. Thus, the data underscores how the demanding nature of radiologic education fosters better focus and task management skills.

Table 4. The relationship between Learning Strategies and Motivation and Attention Span of Radiologic Technology Students:

Variables	r-value	Interpretation	p-value	Remarks	Decision
	Attention Span				
Learning Strategy	0.5622	Moderate	0.0000	Significant	Reject H0
Motivation	0.6481	Strong	0.0000	Significant	Reject H0

Legend:

Correlation (r-coefficient)	Interpretation	p	Interpretation
0.00	No Correlation	p	ignificant Relationship
≤ 0.20	Very Weak	p=0.05	Not Significant
≤0.40	Weak	p>0.05	Not Significant
≤0.60	Moderate		
≤0.80	Strong		
≤0.80	Very Strong		
1.00	Perfect Correlation		

Table 4 presents the relationship between Learning Strategies, Motivation, and Attention Span among Radiologic Technology students, showing significant positive correlations. Learning Strategy and Attention Span yielded a moderate positive relationship (R = 0.5622, p = 0.0000), while Motivation and Attention Span exhibited a strong positive relationship (R = 0.6481, p = 0.0000), indicating that increased learning strategies and motivation enhance attention span. These findings align with Kruglanski et al.'s (2018) research, which underscores motivation as a cognitive energizer that enhances attentional control and focus. Both studies support the conclusion that higher motivation levels lead to better concentration and cognitive performance, reinforcing the critical role of motivation in improving attention span.

Summary, Conclusions, and Recommendations

This study explored the levels of Motivated Strategies for Learning and Attention Span among Radiologic Technology students, aiming to understand how they relate to each other. Using a descriptive correlational quantitative design, questionnaires were given to randomly selected students. The results showed that students displayed moderately high levels of learning strategies, including time study management and motivation, along with a high attention span. A significant positive correlation was found between learning strategies, motivation, and attention span, with both learning strategies and motivation strongly predicting higher attention spans.

Radiologic Technology students showed solid time study management skills and moderate motivation, which contribute to a strong foundation for academic success. Their high attention span reflects their ability to maintain focus despite the demands of their academic tasks. The positive correlation between learning strategies, motivation, and attention span highlights how these factors work together to improve student performance. As such, enhancing learning strategies and motivation could lead to improved attention span, benefiting students in their studies.

Students are encouraged to adopt personalized learning strategies that align with their preferences to sustain and further develop their attention span. Instructors should use diverse teaching methods that engage students and help them strengthen their skills. Future research could delve into whether a direct causal relationship exists between motivated learning strategies and attention span, building on the positive correlation found in this study.

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