Motivation and Self-Regulated Learning For: The Case for Students Learning German & Arabic as Foreign Language

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ABSTRACT

This study aims to identify the level of motivation and self-regulated learning among students of two public universities who are taking a third language subject for two languages, namely German and Arabic. A total of 268 students from various faculties, consisting of three disciplines: Science & Technology, Social Science, and Business, were involved as respondents. These students are divided into three levels of study: Level I (64 students), Level II (134 students), and Level III (70 students). This quantitative study uses a 5 Likert-scale survey method with a questionnaire instrument based on the "Motivated Strategies for Learning Questionnaire (MSLQ)" by Pintrich and De Groot. The survey comprises three sections. Section A contains items regarding the demographic profile. Section B comprises 22 items about motivating beliefs. Section C comprises 22 elements about self-regulated learning processes. Data analysis was conducted using descriptive statistics by examining the mean values for each aspect studied. The overall findings of the study indicate that the level of motivation and self-regulated learning strategies differ according to the student's learning levels. This study implies that it will provide educators with an overview of suitable strategies to enhance student motivation and self-directed learning in acquiring a third language in Malaysia, thereby contributing to the development of more effective pedagogy.

Keywords: Motivation, Self-Regulated Learning (SRL), third language learning, online learning

INTRODUCTION

Background of the Study

Around the world, more and more people are learning German and Arabic. These two languages have special global importance as third or foreign languages. To master vocabulary and grammar, learning German and Arabic as a third language involves a complex interaction of motivation, self-control and cultural accuracy. As the primary language of Europe, the German language is highly valued in the fields of science, technology and engineering for both employment and education. Meanwhile Arabic language as the primary language of the Middle East and North Africa, Arabic is highly valued in terms of culture, religion and economy.

Among the crucial aspects of a student's learning process are motivation and Self-Regulated Learning (SRL). It can measure a student's ability to adapt their intrinsic motivation to the SRL they need to face, especially in the context of post-pandemic language learning norms since 2020, where much of the learning has been conducted online. According to Teaching Excellence in Adult Literacy (2010), known as TEAL, SRL relate to an individual's capacity to understand and manage their learning environment. In other words, SRL is a

learning process that must be carried out independently by a student to achieve their learning goals.

The COVID-19 epidemic, which started in early 2020, forced all education to be done online. This also applied to public universities' third language classes, including German and Arabic language in Malaysia. The fast changes provided a unique setting to examine the connection between SRL and motivation. Students had to take charge of their learning practices as a result of the transition to online classrooms at the time, which presented them with additional difficulties like less in-person connection. They needed to be very motivated to be involved in their education in this situation. At the same time, students needed to set goals, manage their time independently, and monitor their progress in learning. The pandemic period demonstrated that highly motivated students were more inclined to employ successful SRL practices. However, students who struggled with SRL often experienced a decline in motivation.

After the pandemic, third language classes at both public universities are conducted in a hybrid format. Half of the classes are conducted face-to-face, and the other half are conducted online. Despite advancements in learning methodologies post-epidemic, the author's experience in traditional face-to-face instruction, online classes during COVID-19, and current hybrid formats underscores the critical importance of motivation and self-directed learning in each student's educational journey. Consequently, there is a necessity for further research on motivation and self-directed learning, particularly regarding third language or foreign language acquisition in Malaysia. To date, there has been fewness number of research regarding motivation and SRL among students studying German in Malaysia. However, many articles examine research among students of the Arabic language. This study aimed to assess the levels of motivation and SRL among students studying both German and Arabic at the two public universities.

Statement of the Problem

Practical observations of students who struggle academically even when they have access to enough instructional materials triggered interest in this subject. In this case, some students seem driven on the outside (by regularly attending classes, for example). Still, they fall short of their potential because they lack of self-awareness or preparation techniques. This phenomenon raises the question: In SRL, can motivation alone suffice without metacognitive awareness? Conversely, do students who are adept at organising their education but lack drive or self-confidence have comparable challenges? The purpose of this study is to investigate how learners perceive their use of motivational beliefs and SRL strategies.

Objective of the Study and Research Questions

This study aims to explore how learners perceive their motivational beliefs and self-regulated learning strategies in learning German and Arabic as foreign languages. The researchers developed three research questions as a result of this issue:

1. What do learners perceive their motivational beliefs?
2. What do learners perceive their SRL strategies?
3. Is there a relationship between their motivational beliefs and SRL strategies?

LITERATURE REVIEW

Theoretical Framework

Motivational Beliefs

Motivational theories play a crucial role in addressing challenges related to student achievement. According to Muhammad Kamil (2001), motivation is a vital element in fostering effective learning, as it can spark students' interest in the subjects they study. Weiner (1990) describes motivation as an internal state that energizes, directs, and sustains behavior. A strong relationship exists between self-efficacy and motivation in learning; persistence in perceived-threatening activities, when successfully managed, can enhance self-efficacy and reduce defensive behaviour (Bandura, 1977).

Intrinsic motivation, such as self-motivation, allows learners to stay optimistic and committed to their goals despite setbacks. This type of motivation stems from within the individual and is associated with emotional control in learning (Lilian, 2022). Personal interest and value in learning also contribute to intrinsic motivation (Shanthi et al., 2019; Arlina, 2006). Hamiamah et al. (2017) assert that intrinsic motivation enables learners to find joy in learning, positively affecting achievement.

Furthermore, students with high technological self-efficacy are less likely to face failure in digital learning environments (Pintrich, 2003). These learners may view setbacks as feedback and seek help to improve their skills.

Test anxiety is another key factor influencing motivational beliefs. High-stakes assessments, such as final or national exams, can trigger anxiety (Santrock, 2007). Research shows cognitive test anxiety (e.g., fear of failure or negative evaluation) has a more pronounced impact than emotional anxiety (Pintrich & Schunk, 1996; Wann, 1997).

Overall, self-efficacy, intrinsic value, and test anxiety collectively shape students' motivation. A positive self-perception and reduced anxiety contribute to stronger motivation and better academic performance (Ghomi & Yamchloo, 2025).

Self-Regulated Learning Strategies

SRL encompasses students' ability to manage their own learning through cognitive, metacognitive, motivational, and behavioral strategies. It is conceptualized in three tiers: the regulation of processing modes, learning process management, and self-regulation (Bekaert, 1999). Cognitive strategies, such as rehearsal, elaboration, and organization, support the acquisition and integration of knowledge (Weinstein & Mayer, 1985).

Incorporating AI can enhance SRL, though support needs to be personalized due to the complexity of SRL processes (Molenaar, 2022; Lodge et al., 2019; Roll et al., 2014). AI can help monitor and support SRL by evaluating learners' behaviors and providing individualized feedback (Noroozi et al., 2019; Roll & Winne, 2015). Various AI tools, including plan organizers, digital agents, and virtual companions, have been developed to aid SRL (Somasundaram et al., 2020; Woolf et al., 2010; Goel & Polepeddi, 2016).

SRL involves a cyclical process of forethought, performance, and self-reflection (Zimmerman & Schunk, 1989). Integrating AI and ICT into SRL allows learners to personalize their learning and take greater ownership of their progress, fostering autonomy and engagement.

The Role of ICT and AI in Enhancing Self-Regulated Learning Strategies

Zimmerman (2002) defines self-regulated learning (SRL) as a process whereby learners actively manage their own learning through self-generated thoughts, feelings, and behaviours to attain academic goals. Bandura (1997) highlights three core elements of self-regulation: self-observation, judgment, and self-response. These elements are crucial in fostering students' autonomy, especially in a technology-rich environment.

Molenaar (2022) suggests that the use of AI-based learning tools—such as intelligent tutors or feedback systems—helps students to regulate their learning by providing real-time support, personalised learning paths, and opportunities for metacognitive reflection. Lodge et al. (2019) reinforce that AI and ICT can assist with the cognitive, behavioural, and motivational components of SRL, making learning more adaptive and responsive to individual needs.

According to Lodge et al. (2019), the use of ICT and AI can help in the cognitive, behavioural, and motivational aspects of SRL learning. This approach makes the learning process more flexible and able to adapt according to the needs of the students.

The ability of students to organise, track, and assess their own learning progress is then necessary for SRL to be effective, as explained by Pintrich and Schunk (1996). Nowadays, thanks to the quick advancement in

technology, students can use digital dashboards to monitor their own progress, online planners to create learning goals, and automated feedback to improve their learning methods. According to Roll & Winne (2015), AI systems can identify deeper and more complex patterns of behaviour, allowing students to choose how they want to learn.

Based on the views of experts, it is clear that ICT and AI do not fully support SRL but have successfully and actively enhanced SRL learning. In the context of this study, students who use application tools and AI show a strong correlation with SRL strategies. Especially in a language learning environment where self-directed learning, feedback, and time management are very important. The connection between these technologies has successfully transformed passive students into active ones, self-regulated learners who manage their own learning and subsequently achieve their academic goals.

This statement is supported by findings from the survey conducted in this study. Most students reported that they 'often' or 'frequently' use digital tools such as online dictionaries, language learning apps, AI-powered writing assistants, and grammar checkers to aid their learning. All these applications are used to manage time, set learning goals, customize content independently, and monitor their own progress. Clearly, this demonstrates SRL behavior that has been enhanced by the power of technology.

Past Studies

Past Studies on Motivational Beliefs

Khairul Anuar et al. (2023) investigated the motivational elements influencing learning among undergraduate students. Using a structured survey (adapted from Zimmerman, 2000; Pintrich & De Groot, 1990), the study categorized items into four aspects: demographics, forethought, performance, and self-reflection. With a sample of 122 students from a Malaysian public institution, the study revealed that these elements significantly impacted student motivation and were positively associated with SRL. The researchers emphasized the need for educators to provide structured support to enhance student motivation and autonomy.

Wang et al. (2012) examined the relationship between SRL practices, self-efficacy, and academic performance among Chinese medical students learning English. While the students showed moderate self-efficacy and limited use of SRL strategies, the study highlighted the need for interventions to enhance self-regulation and motivation in language learning.

The expectancy-value theory by Wigfield and Eccles (2000) and Self-Determination Theory by Ryan and Deci (2020) have also informed motivation research. These theories stress the role of task value, performance expectations, and intrinsic/extrinsic motivation in promoting deep engagement and achievement in academic settings.

Past Studies on Self-Regulated Learning Strategies

Choi et al. (2018) explored SRL in vocabulary learning among Korean high school students using SEM analysis. The results indicated that motivation (both intrinsic and extrinsic) had a significant indirect influence on vocabulary knowledge through SRL strategies.

Joo et al. (2015) studied 963 college students in a computer application course and found that students with strong SRL skills achieved higher academically, especially in online learning contexts.

Mustopa et al. (2020) investigated the interplay between SRL, motivation, and metacognitive skills. Their findings showed that students with well-developed SRL abilities exhibited better academic outcomes and problem-solving skills. Integrating metacognitive training into curricula was recommended to strengthen self-regulatory capacities.

Panadero (2017) reviewed multiple SRL models, emphasizing the importance of the three-phase model: forethought, performance, and self-reflection. These models highlight how SRL encourages continuous adaptation and strategic learning.

A meta-analysis by Zhao et al. (2025) confirmed a modest but significant correlation (r = .14) between SRL strategies and academic performance.

Conceptual Framework

Figure 1 shows the conceptual framework of the study. This study explores the relationship between motivational beliefs and SRL strategies. Motivation not only helps learners sustain learning; it also makes learners independent in their pursuit of knowledge (Rahmat & Thasrabiab, 2024). Learners' motivational beliefs fuel the drive to stay motivated. According to Pintrich and De Groot (1990), three motivational beliefs are self-efficacy, intrinsic value, and test anxiety. These beliefs help learners to become independent in their search for knowledge. Pintrich and De Groot (1990) also state that independent learners use strategies such as cognitive strategy use and self-regulation.

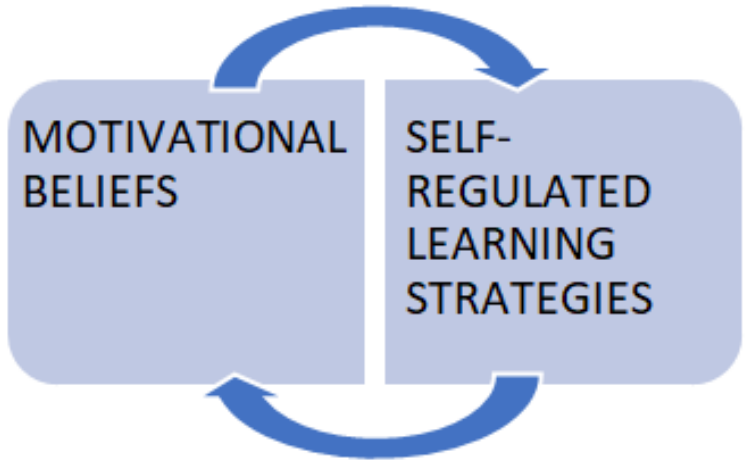

Figure 1: Conceptual Framework of the Study

Motivational Beliefs & Self-Regulated Learning Strategies

METHODOLOGY

This quantitative study aims to investigate the motivational elements influencing learning among undergraduates. A purposive sample of 268 people completed the survey. The utilised tool is a 5-point Likert scale survey, based on the work of Pintrich and De Groot (1990), to elucidate the factors presented in Table 1 below. The survey comprises three sections. Section A contains items regarding demographic profiles. Section B comprises 22 items pertaining to motivating beliefs. Section C comprises 22 elements pertaining to SRL processes.

Table 1: Distribution of Items in the Survey.

Part	Strategy		Scale	No Of Items	TotalItems	Cronbach Alpha
One	Demographic Profile					
Two	Motivational Beliefs	A	Self-Efficacy	9	22	.892
		B	Intrinsic Value	9		
		C	Test Anxiety	4		
Three	Self-Regulated Learning Strategies	D	Cognitive Strategy Use	13	27	.927
		E	Self-Regulation	14		
			Total Number Of Items		49	.948

Table 1 additionally presents the dependability of the survey. The analysis indicates a Cronbach's alpha of more than 0.8, demonstrating the instrument's commendable dependability. We perform additional analysis utilising SPSS to elucidate the findings and respond to the research topics in this study.

FINDINGS

Findings for Demographic Profile

Table 2: Percentage for Q2-Languages.

No	Item	Percentage
1	German	66%
2	Arabic	34%

Based on the table percentage for languages above, out of a total sample of 268 individuals, the number of respondents for German is higher than for Arabic, with 66% compared to 34%.

Table 3: Percentage for Q3-Course Level.

No	Item	Percentage
1	Level 1	24%
2	Level 2	50%
3	Level 3	26%

The above table shows the percentages for course levels. Out of a total sample of 268 respondents, they were divided into three levels: Level 1, Level 2, and Level 3. Respondents in Level 1 accounted for 24%, while those in Level 2 were the highest and accounted for 50%, and respondents in Level 3 accounted for 26%.

Table 4: Percentage for Q4-Discipline.

No	Item	Percentage
1	Science & Technology	35%
2	Social Sciences	46%
3	Business	19%

Based on the table above, three discipline items were taken from both universities. The social sciences discipline shows the highest sample percentage at 46%. Next, the Science & Technology discipline accounts for 35%, while the Business discipline has the lowest percentage at only 19%.

Findings for Motivational Beliefs

This section presents data to answer research question 1: What do learners perceive their motivational beliefs? In the context of this study, motivational beliefs are measured by (i) self-efficacy, (ii) intrinsic value, and (iii) test anxiety.

Table 5: Mean for (i) SELF-EFFICACY (9 items)

Item	Mean	SD
MBSEQ1 Compared with other students in this class, I expect to do well.	3.4	.93053
MBSEQ2 I'm certain I can understand the ideas taught in this course.	3.8	.75772

MBSEQ 3I expect to do very well in this class.	3.8	.83779
MBSEQ 4Compared with others in this class, I think I'm a good student	3.2	.94516
MBSEQ5 I am sure I can do an excellent job on the problems and tasks assigned for this class.	3.8	.74956
MBSEQ61 thinks I will receive a good grade in this class.	3.9	.78775
MBSEQ 7 My study skills are excellent compared with others in this class.	3.3	.87034
MBSEQ8 Compared with other students in this class, I think I know a great deal about the subject.	3.3	.86661
MBSEQ9I know that I will be able to learn the material for this class	3.9	.78526

Table 5 presents the mean self-efficacy scores, ranging from 3.0 to 3.9. The highest mean score of 3.9 was observed in two items (MBSEQ61 and MBSEQ9), indicating that learners will receive a good grade in this class and believe they can learn the course materials. A mean of 3.8 (MBSEQ2), (MBSEQ3), and (MBSEQ5) indicates that learners are confident in understanding taught concepts, expect to perform well in class, and are confident in their ability to excel in assigned tasks and problems. With a mean of 3.4 (MBSEQ1), learners expect to perform well relative to their peers. Meanwhile, a score of 3.3 (MBSEQ 7) and (MBSEQ8) are confident in their ability to excel in assigned tasks and problems. MBSEQ8 Compared with other students in this class, they think they know a great deal about the subject. The lowest mean score of 3.2 (MBSEQ 4) reflects that learners perceive themselves as good students.

Table 6: Mean for (ii) INTRINSIC VALUE (9 items)

Item	Mean	SD
MBIVQ1I prefer class work that is challenging so I can learn new things.	3.6	.88971
MBIVQ2It is important for me to learn what is being taught in this class.	4.1	.73350
MBIVQ3I like what I am learning in this class.	4.2	.74621
MBIVQ 4I think I will be able to use what I learn in this class in other classes.	3.9	.84935
MBIVQ 5 I often choose paper topics I will learn something from even if they require more work.	3.6	.82124
MBIVQ 6 Even when I do poorly on a test, I try to learn from my mistakes.	4.2	.72746
MBIVQ7 I think that what I am learning in this class is useful for me to know.	4.1	.76900
MBIVQ 8 I think that what we are learning in this class is interesting.	4.2	77278
MBIVQ 9 Understanding this subject is important to me.	4.2	.76652

Table 6 indicates the mean scores for intrinsic value, which range from 3.6 to 4.2. The highest mean score of 4.2 was recorded for four items (MBIVQ3, MBIVQ6, MBIVQ8, and MBIVQ9), emphasising the importance of interest in learning the subject. Meanwhile, a mean of 4.3 was observed for four items (MBIVQ2, MBIVQ3, MBIVQ7, and MBIVQ8), indicating that respondents enjoy learning in this class. If they perform poorly on a test, they strive to learn from their mistakes. They find the subject interesting and believe that understanding it is essential for their personal development. A mean of 4.1 was recorded for MBIVQ2, highlighting the importance of learning the material taught in this class, and for MBIVQ7, where respondents consider the subject matter proper for their knowledge. A mean score of 3.9 (MBIVQ4) reflects respondents' recognition of the practical usability of what they have learned. The lowest mean score of 3.6, shared by MBIVQ1 and MBIVQ5, suggests that respondents prefer challenging tasks and additional work to enhance their learning experience.

Table 7: Mean for (iii) TEST ANXIETY (4 items)

Item	Mean	SD
MBTAQ1 I am so nervous during a test that I cannot remember facts I have learned.	3.4	1.01860
MBTAQ 2 I have an uneasy, upset feeling when I take a test.	3.1	1.02386
MBTAQ 3 I worry a great deal about tests.	3.5	1.04398
MBTAQ 4When I take a test I think about how poorly I am doing.	3.4	1.8623

Table 7 illustrates the mean scores for test anxiety, which range from 3.1 to 3.5. The highest mean score of 3.5 (MBTAQ3) reflects a strong sense of worry about tests. This is followed by a mean score of 3.4 for (MBTAQ4 and MBTAQ1), indicating that learners often worry about their performance during tests and feel so nervous that they struggle to recall learned information. The lowest mean score of 3.1 (MBTAQ2) suggests that respondents experience uneasiness and distress when taking tests.

Findings for SRL Strategies

This section presents data to answer research question 2: What do learners perceive their SRL strategies? In the context of this study, this is measured by (i) cognitive strategy and (ii) self-regulation.

Table 8: Mean for (i) COGNITIVE STRATEGY USE (13 items)

Item	Mean	SD
SRLSCSUQ1 When I study for a test, I try to put together the information from class and from the book.	4.1	.77455
SRLSCSUQ 2 When I do homework, I try to remember what the teacher said in class so I can answer the questions correctly.	4.2	.77754
SRLSCSUQ 3 It is hard for me to decide what the main ideas are in what I read.	3.3	.89717
SRLSCSUQ 4 When I study, I put important ideas into my own words.	4	.76169
SRLSCSUQ 5I always try to understand what the teacher is saying even if it doesn't make sense.	3.8	.88190
SRLSCSUQ 6 When I study for a test, I try to remember as many facts as I can.	4.1	.77860
SRLSCSUQ 7 When studying, I copy my notes over to help me remember material.		.85857
SRLSCSUQ 8 When I study for a test, I practice saying the important facts over and over to myself.	4	.81501
SRLSCSUQ 9I use what I have learned from old homework assignments and the textbook to do new assignments.	4.1	.82767
SRLSCSUQ 10 When I am studying a topic, I try to make everything fit together.	4.1	.76477
SRLSCSUQ 11 When I read material for this class, I say the words over and over to myself to help me remember.	4	.78244
SRLSCSUQ 12I outline the chapters in my book to help me study.	4	.83859
SRLSCSUQ 13When reading, I try to connect the things I am reading about with what I already know.	4	.77096

The data presented in Table 8 show that students generally use effective cognitive strategies during their study sessions, with averages mostly above 4.0. This strong tendency shows towards integrating and synthesising

information from various sources to improve their understanding and retention. This was followed by a decrease of (SRLSCSUQ 5I) 3.8 for understanding the teacher's message, indicating a willingness to engage with challenging material even if it was not clear. This reflects a broader attitude of perseverance in the face of confusion in the learning process. However, the lower average of (SRLSCSUQ) 3.3 is for identifying main ideas into highlighted areas for potential improvement in their use of cognitive strategies.

Table 9: Mean for (ii) SELF-REGULATION (9 items + 5)

Item	Mean	SD
SRLSSRQ 1 I ask myself questions to make sure I know the material I have been studying.	3.9	.78340
SRLSSRQ 2 When work is hard, I either give up or study only the easy parts.	3.2	1.09355
SRLSSRQ 3I work on practice exercises and answer end-of-chapter questions even when I don't have to.	3.6	.90757
SRLSSRQ 4 Even when study materials are dull and uninteresting, I keep working until I finish.	3.8	.85558
SRLSSRQ 5 Before I begin studying, I think about the things I will need to do to learn.	3.9	.81960
SRLSSRQ 6 I often find that I have been reading for class but don't know what it is all about.	3.4	1.01493
SRLSSRQ 7 I find that when the teacher is talking, I think of other things and don't listen to what is being said.	3	1.10560
SRLSSRQ 8 When I'm reading, I stop once in a while and go over what I have read.	3.7	.83755
SRLSSRQ 91 work hard to get a good grade even when I don't like a class.	4	.90917

Based on the average scores of the nine items in the study of self-regulation in learning, it appears that most students have moderate to strong self-regulation skills. The highest mean score (4.0) is recorded for SRLSSRQ9, signifying that students show substantial motivation to attain favourable marks, even in areas they find unenjoyable. Likewise, SRLSSRQ1 and SRLSSRQ5, each with a score of 3.9, indicate that students actively participate in self-questioning and planning before studying. However, lower mean scores, like SRLSSRQ7 (3.0) and SRLSSRQ2 (3.2), suggest that there may be problems, such as trouble paying attention in class and a tendency to avoid challenging topics. Overall, although students demonstrate strong self-regulation mechanisms, areas that include attentiveness and persistence in complex tasks may require improvement.

Table 10: Mean for Self-Regulated Learning-Using IT AND AI

Item	Mean	SD
1) I often use AI or technology-based tools for learning.	3.9	.90633
2) I feel comfortable using educational tools that rely on technology.	4	.79558
4) These technology-based tools have assisted me in establishing my learning objectives.	3.9	.75710
5) I think using these IT and AI tools makes me more motivated to study on my own.	3.9	.83834
6) I feel confident in managing my learning with the help of technology.	4	.81619

The mean for SRL in the use of AI and IT is between moderately high and high, according to the analysis in the above table. Items 1, 4, and 5 are those that fall inside the considerably high mean. Interpretation based on

item 1 shows that respondents sometimes use IT and AI in learning but not comprehensively. Next, for item 4, which also received a moderately high mean of 3.9, technology helps respondents in lesson planning, but there may be other factors that could influence it. Then, for item 5, which also shows the same mean, it indicates that technology has a positive effect on motivation but not overall. Furthermore, item 2 and item 6 show a high mean score of 4, indicating that respondents are comfortable and confident using technology in learning German and Arabic languages.

Findings for the relationship between motivational beliefs and SRL strategies

This section presents data to answer research question 3: Is there a relationship between their motivational beliefs and SRL strategies?

SPSS is used to look for correlations in the data to see if there is a significant link between the mean scores of motivational beliefs and SRL strategies. The correlation analysis indicates a highly significant link between motivating beliefs and SRL strategies (r=.753**, p=.000). Jackson (2015) indicates that the coefficient is significant at the .05 level, with a positive correlation quantified on a scale from 0.1 to 1.0. A weak positive correlation ranges from 0.1 to 0.3, a moderate positive correlation from 0.3 to 0.5, and a strong positive correlation from 0.5 to 1.0. This indicates a robust positive correlation between motivating beliefs and SRL practices.

DISCUSSION

Motivational Beliefs and Their Impact on Learning Performance

The study found that students generally exhibited moderate to high levels of motivation when learning German and Arabic. Self-efficacy, intrinsic value, and test anxiety emerged as significant motivational factors influencing their learning behaviours. High levels of self-efficacy were associated with better academic performance and more effective learning strategies (Pintrich & De Groot, 1990). For instance, students who believed they could succeed in language learning tasks were more likely to persist and employ cognitive and metacognitive strategies effectively. According to Bandura (1977), self-efficacy plays a key role in motivating students to engage in learning tasks and sustain effort despite challenges. This aligns with the findings of the study, where students with higher self-efficacy scores demonstrated stronger motivation to succeed.

Moreover, the positive correlation between intrinsic value and learning outcomes supports the Expectancy-Value Theory by Wigfield and Eccles (2000), which posits that students are more likely to engage in learning activities when they perceive them as valuable and meaningful. However, the study also identified that test anxiety remains a challenge for many students. Despite exhibiting strong intrinsic motivation and self-efficacy, the anxiety associated with test performance often led to stress and impaired cognitive functioning. This finding is consistent with Weiner's (1990) work on motivational research, which highlights the detrimental impact of test anxiety on academic performance. Students with high levels of test anxiety were less likely to employ effective SRL strategies, which affected their overall learning outcomes.

Self-Regulated Learning Strategies and Their Effectiveness

The study demonstrated that students employed various SRL strategies to enhance their language learning. Cognitive strategies such as rehearsal, elaboration, and organisation were widely used among students. This is consistent with the work of Zimmerman (2002), who argued that SRL involves a cycle of forethought, performance, and self-reflection. Students who engaged in active learning strategies, such as summarising information, self-questioning, and goal-setting, showed better academic performance. Panadero (2017) identified six models of SRL that encompass cognitive, metacognitive, and emotional components. The findings from this study reflect the importance of cognitive and metacognitive strategies in language learning. Students who planned their learning, monitored their progress, and adjusted their strategies accordingly performed better in their German and Arabic language courses.

The role of self-regulation in managing learning challenges was also evident. Students who exhibited strong self-regulation skills were able to stay motivated and focused even when faced with difficulties. This supports the findings of Joo et al. (2015), who identified a positive relationship between self-regulation and academic performance in an online learning environment. However, the study also revealed that some students struggled with self-regulation, particularly in terms of maintaining focus and managing time effectively. This suggests that targeted interventions to improve time management and self-monitoring could enhance SRL effectiveness.

The Role of Technology and External Support in SRL

The study highlighted the increasing role of technology and AI in supporting SRL. Students who used AI-based learning tools and online resources reported higher levels of motivation and improved self-regulation. This aligns with the findings by Choi et al. (2018), who demonstrated that AI-supported learning environments enhance SRL by providing immediate feedback, personalised learning paths, and adaptive learning strategies. The integration of AI in language learning also facilitated goal-setting and self-monitoring. Students who used AI-based tools were more likely to stay organised, track their progress, and adjust their learning strategies based on performance feedback.

This finding echoes the work of Wang et al. (2012), who identified a positive correlation between technological self-efficacy and SRL in language learning contexts. However, the study also identified challenges related to the use of technology in SRL. While most students reported feeling comfortable with AI and online tools, some experienced difficulties in navigating complex learning platforms and interpreting feedback. This suggests the need for improved digital literacy and training to maximise the benefits of technology in SRL.

Relationship between Motivational Beliefs and SRL Strategies

A key finding of this study is the strong positive correlation between motivational beliefs and SRL strategies ($r = 0.753$, $p = 0.000$). This finding supports the theoretical framework proposed by Pintrich and De Groot (1990), which posits that motivation and SRL are interdependent constructs. Students with higher self-efficacy and intrinsic motivation were more likely to engage in self-regulated learning behaviours, such as goal-setting, self-monitoring, and strategic planning. The correlation between motivation and SRL also supports the Self-Determination Theory by Ryan and Deci (2020), which suggests that intrinsically motivated students are more likely to demonstrate autonomy, competence, and relatedness in learning.

Students who found language learning personally meaningful and rewarding were more likely to engage in self-directed learning and persist in the face of challenges. The positive correlation between motivation and SRL strategies underscores the importance of fostering a supportive learning environment that enhances both intrinsic and extrinsic motivation. Providing opportunities for students to set goals, reflect on their learning, and receive constructive feedback can strengthen the connection between motivation and SRL.

Challenges and Areas for Improvement

While the study revealed strong motivation and effective SRL strategies among students, several challenges remain. Test anxiety emerged as a significant barrier to academic success, highlighting the need for stress management interventions and test-taking strategies. Additionally, some students struggled with cognitive organisation and time management, indicating the need for targeted training in these areas. The study also identified variability in SRL effectiveness based on language type. German learners reported higher levels of test anxiety and lower levels of intrinsic motivation compared to Arabic learners.

This suggests that linguistic and cultural differences may influence motivation and SRL outcomes. Tailoring instructional strategies to address these differences could enhance language learning outcomes. Furthermore, the role of technology in SRL remains underutilised. While students reported positive experiences with AI and online tools, there is room for greater integration of technology in language learning. Providing training and resources on the effective use of AI-based learning platforms could further enhance SRL effectiveness.

CONCLUSION

Summary of Findings and Discussions

Overall, the study's findings show a high correlation between SRL procedures and motivational beliefs. According to research on motivational belief and self-efficacy, students are moderately to highly confident in their ability to succeed in the German and Arabic language classes they are enrolled in. Students showed a great deal of drive and desire to learn Arabic and German in the intrinsic value part. On the other hand, test anxiety data show that a lot of students are anxious about their exams. This result suggests that even when students exhibit strong motivational beliefs in terms of self-efficacy and intrinsic value, exam anxiety still affects academic performance.

Fostering a growth mindset and increasing self-efficacy through skill-building activities, especially when compared to peers, can help enhance confidence. Additionally, methods including stress management programs, test-taking workshops, and mindfulness exercises may help strengthen overall academic wellness and lower test anxiety.

In the meantime, the results for SRL strategies show that students are capable, especially when it comes to self-regulation and the use of cognitive processes. Overall, the students showed good learning habits when it came to using cognitive strategies. Despite some challenges, students consistently continue their studies in terms of SRL. The results of the survey also show that ICT and AI tools are becoming more important in SRL. This demonstrates how students can improve their academic motivation and self-regulation by utilising technology in their learning practices.

Pedagogical Implications and Suggestions for Future Research

The results of this study offer valuable insights into students' SRL practices and motivating beliefs. It affects the pedagogy of learning. Teachers should consider exam anxiety when creating instructional strategies that can boost intrinsic motivation and self-efficacy. For example, incorporating active learning strategies like group projects and problem-solving can boost students' self-esteem and interest. Additionally, students can have greater control over their learning and improve their ability to organise knowledge if they are subjected to organised reflection and self-assessment exercises. Given the growing importance of ICT and AI in education, educators should investigate the best ways to include digital technologies to encourage self-directed learning and motivation.

Several recommendations can be made for further research. Among these, a more thorough qualitative investigation is required. For instance, case studies or interviews can offer more in-depth information about how students deal with test anxiety and apply cognitive strategies. Future studies can then look at how well ICT and AI technologies work to improve SRL and motivation. Any future study, present findings, and additional studies by other researchers on this topic will help design more successful educational practices that improve SRL and motivation if we can see certain aspects like the ones above.

Conflict of Interest

There is no conflict of interest.

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