Role of Achievement Motivation and Metacognitive Strategies Use for Defining Self-Reported Language Proficiency

Farhan Ahmad[1], & Sohaib Alam[2]

[1] Department of English Language and Literature, College of Sciences and Humanities, Prince Sattam Bin Abdulaziz University, Kingdom of Saudi Arabia. E-mail: f.ahmad@psau.edu.sa ORCID: https://orcid.org/0000-0001-5710-7800

[2] Department of English Language and Literature, College of Sciences and Humanities, Prince Sattam Bin Abdulaziz University, Kingdom of Saudi Arabia. E-mail: s.alam@psau.edu.sa ORCID: https://orcid.org/0000-0002-9972-9357

Correspondence: Farhan Ahmad, Department of English Language and Literature, College of Sciences and Humanities, Prince Sattam bin Abdulaziz University, Kingdom of Saudi Arabia.

Received: April 25, 2024 Accepted: June 11, 2024 Online Published: June 26, 2024

doi:10.5430/wjel.v14n6p77 URL: https://doi.org/10.5430/wjel.v14n6p77

Abstract

The present study aims to explore the role of achievement motivation and metacognitive strategies for defining self-reported language proficiency in the context of English as a Second Language. Moreover, the study also investigates the complex relationship that exists between motivation, metacognitive strategy, and self-reported language proficiency as they have recently been identified as key predictors of language proficiency. The present research delves into the ways motivation and metacognitive strategies help learners in acquiring self-reported language proficiency. Further, it highlights the skills that can be targeted by using these strategies. The study indicates that enabling learners with positive attitudes, motivation, and metacognitive strategies can have a constructive effect on learning. To determine the important role, achievement motivation and metacognitive strategies play in defining self-reported language proficiency, the study collects responses from 113 participants who will complete three Questionnaires (one each) on self-reports of language proficiency, metacognitive strategies, and achievement motivation. The measures of Achievement Motivation, Metacognitive Strategies, and Self-reported scores of English language proficiencies (skill-wise) will be collected through the respective instruments, *Deo-Mohan Achievement Motivation Scale (n-Ach), Metacognitive Reading Strategies Questionnaire (MRSQ), and Self-Reported Language Proficiency Scores.*

Keywords: motivation, achievement, metacognitive strategies, SLP

1. Introduction

Learning proficiency is the person's ability to use language with a high degree of fidelity to a shared meaning system, both in language production and language comprehension. Although it is easier to identify its constituent skills, a precise definition of language proficiency does not exist as it is difficult to characterize. By the time human infants are three years old, they acquire over 900 words (Bloom & Markson, 1998), and from the core of proficiency. The determinants of proficiency, however, apart from vocabulary, are more complex. Not only does it include the LSRW i.e. listening, speaking, reading, and writing, proficiency can be influenced by a self-appraisal of one's own perception of proficiency with a lot of interpersonal variation. These individual differences in language learning mainly focus on four areas, viz., language aptitude, learning style, attitudes, motivation, and learner strategies (Skehan, 1991; Dornyei, 2001, 2005; Dornyei and Ushioda, 2011; Gardner, 2006, 2010; Gardner and Macintyre, 1993; Alam, 2023b). In today's globalized societies, language skills are considered an essential requirement for life and work. Considering the immediacy of acquiring it, a number of researches has been conducted to explore the factors influencing language proficiency. But only a few of them were concerned about how achievement motivation and metacognitive strategies use affect language proficiency. That is why the researchers decided to carry out this research to find an answer to how the two factors help in defining self-reported language proficiency.

2. Literature Review

Self-perception is another important component of learning aptitude and characterizes to a significant degree, learner autonomy. As a subject of the learning process, it helps us to figure out what students think of their learning. It is a fundamental part of a learner's beliefs about their abilities (Ellis, 2008). A positive or negative self-perception of linguistic ability may thus be expected to enhance or disrupt language learning, respectively. That self-perception can positively and negatively affect their language learning outcomes has been pointed out (Bandura, 1993). This, in turn, can affect learner autonomy, a factor correlated with language learning (Peek, 2016) with a 'locus of control' generally thought to have a bearing on motivation and generalized self-efficacy (Judge et al., 2002). However, the role of locus of control has not been very clear. For example, in a longitudinal study White (1999) reported that for self-instructed language learners an internal locus of control plays a role of key predictor of success in autonomous learning of a foreign language, whereas in another study, locus of control is not a reliable predictor of success in foreign language reading and writing (Galazka & Trinder, 2016). It is our conjecture

that self-reported language proficiency is partly indicative of language proficiency and learner autonomy. Of the many factors that mediate such learner autonomy, motivation remains at the top of the list (Dornyei, 1998).

Motivation is considered a recurrent goal state often measured by factors that drive, direct, and select a particular behaviour, which moves a person closer to the goal that begets a sense of achievement (McClelland, 1987). This drive for significant accomplishment, including what learners want to do and what they should do, not only guides them in locating and using appropriate learning resources but also mediates their learning conviction. Achievement motivation is thus another indicator of the motivational drive of an individual to reach a defined goal. According to McClelland's (1985, 987) theory of human motivation, each person's motivational drive is divided into three driving forces viz., need for power, need for affiliation, and need for achievement. An individual develops these drives over time while interacting with their environment and culture. Individuals with high achievement motivation tend to set and achieve goals that challenge themselves and like to receive frequent feedback on their growth and accomplishments (Mahant et al., 2023; Naderi et al., 2021).

Motivational forces help learners initiate, maintain, and excel in language acquisition. According to Rachvelishvili (2017), the achievement goals framework is closely related to a will-do attitude that effectively describes language learning and motivates students to fully accomplish their goals. Motivation as a process engages the learner in the learning activity while indicating the preparedness, and specifying the objectives of the language learning process (Alam, 2022; 2023a). Achievement Goal Theory describes a general orientation that focuses on the reasons and concerns students consider when they are involved in goal-oriented behaviour (Wolters, 2004). The theory explains two general orientations: such as mastery and performance goals. Mastery goals help students to focus on self-improvement by learning, understanding, and developing new skills using self-referenced standards. Performance goals orient the person towards demonstrating abilities, gaining recognition, and meeting the standards of competing with others while achieving the goal (Pintrich, 2000). In the opinion of Hidayat et al. (2018), "Achievement goals involve the purposes or cognitive dynamic manifestations of achieving, developing, or demonstrating high rather than low ability" (p. 4). While some recent studies have examined the influence of motivation on language proficiency, the skills have been treated separately, e.g., reading (Smith et al., (2018), listening (Harputlu & Ceylan, 2014), vocabulary (Mieszkowska et al., 2017), or the relationships of the impact of instruction on motivation and attitude (Acheson et al., 2015).

Another important factor (besides motivation) that determines successful language acquisition is metacognition. Flavell (1976) who first proposed the term 'metacognition' considers it as the information or metacognitive cycles that include examination, checking, and control of cycles and metacognitive exercises. "Metacognition can essentially be seen as the instructions we give ourselves on how to do a particular learning activity or task." (Muijs & Bokhove, 2020, p. 7). Over the year's researchers have related metacognition to different hypotheses like meta-learning, basic reasoning, and inspiration. Furthermore, most analysts concur upon three parts to characterize metacognition: definitive metacognitive information, psychometric testing, and procedural guidelines. This is known to be controlled and affected by the treatment of individuals with anxiety issues (Buwalda et al., 2008). From this viewpoint, metacognitive information alludes to the information about one's cognizance; for example, the data that individuals have about memory execution or psychological control.

The type of metacognitive strategies that enable intrinsic motivation to achieve goals plays an important role in acquiring language proficiency which indicates the level of academic achievement. According to Teng et al. (2021), activating learners' cognitive strategies is a precondition for goal setting, for monitoring and assessing their learning process. They state that "Metacognitive strategies are the key to self-regulated learning," (Teng et al., 2021, p. 5) Huang et al. (2009) propose that intelligent use of cognitive strategies allows students to identify challenges, monitor their progress, and finding diverse ways to overcome these challenges.

Metacognition is composed of metacognitive knowledge and regulation. Metacognition refers to two different aspects: metacognitive awareness and regulation of cognitive activities. It has been established that metacognitive knowledge, motivation, and learning strategies exhibit an important role in self-regulated learning (Karlen, 2016). This self-regulation is the connecting variable between metacognition and motivation, and successful learners are those who have metacognition as well as motivation, and a broad set of learning strategies. (Borkowski et al., 2000). Talking about the connection between motivation and cognition Teng et al. (2017) state that "Learners who possess a higher level of motivation may be more likely to conduct deep-level cognitive processing" (p. 2). Language proficiency is highly correlated with students' language self-confidence, a sub-component of self-motivation, and hence of self-regulation, via monitoring and self-regulation. Hence the assumption that proficiency, motivation, and metacognitive strategies are part of a unified model of language proficiency that is a product of motivation and consequent metacognitive strategies is not unfounded. We can infer from the above discussion that motivation, linguistic ability, and metacognitive strategies use can affect language proficiency (Alam & Usama, 2023). Taken together, these studies demonstrate a strong connection between motivation and attitudes, metacognitive strategy use, and language proficiency (Alam et al., 2023a).

3. Research Objectives

The primary objectives of this research are (i) to examine the role of achievement motivation and metacognitive strategies in defining self-reported language proficiency in the ESL context. (ii) to explore the relationship between achievement motivation, metacognitive strategy, and self-reported language proficiency. (iii) to study the effects of motivation and metacognitive strategies on Second Language Learning. (iv) to delve into the ways metacognitive strategies and motivation can be used to acquire language proficiency among male and female respondents.

4. Research Questions

The research questions are:

- How do achievement motivation and metacognitive strategies help in defining self-reported language proficiency in the ESL context?
- What is the relationship between achievement motivation, metacognitive strategy, and self-reported language proficiency?
- What role do motivational forces in combination with metacognitive strategies play in learning English as a second language?
- How do the above-stated strategies help male and female respondents in acquiring language proficiency and what language skills can be targeted by using these strategies?

5. Materials and Method

A. Participants and Sampling

A total of 113 participants (M = 26, F = 87) who completed three Questionnaires (one each on self-reports of language proficiency, metacognitive strategies, and achievement motivation) were included in the present study. After the collection of responses, data from participants who had filled out all three questionnaires were retained for further analysis.

B. Instruments

Deo-Mohan Achievement Motivation Scale (n-Ach)

The Deo-Mohan Achievement Motivation Scale (n-Ach) consists of fifty items, of which thirteen are negative and 37 are positive. Responses were collected on a 5-point Likert Scale. Positive items are evaluated 4, 3, 2, 1, and 0 respectively for the responses of 'Always', 'Frequently', "Sometimes', 'Rarely' and 'Never'. Negative items are to be scored reversely i.e. 0, 1, 2, 3, and 4 for the same categories. The test-retest reliability of the scale is 0.69. The coefficient of correlation between the scale and the projective test is 0.54. The coefficient of correlation between the scale and the Aberdeen Academic Motivation Inventory is 0.75). The scale indicates that the higher the score, the higher the motivation to succeed in the performance.

Metacognitive Reading Strategies Questionnaire (MRSQ)

The Metacognitive Reading Strategies Questionnaire (MRSQ) is an instrument that is based on exploratory and confirmatory analyses that assess the cognitive reading strategies of college students. MRSQ has a 22-item, two-dimensional structure that intends to reveal the analytic-cognitive (16 items) and the pragmatic-behavioural (6 items) dimensions of the metacognitive strategies employed by a learner during the preparation of lessons. A Pearson correlation coefficient (r) of 0.85 ($p > 0.01$) has been reported between the commonalities for the final exploratory and confirmatory two-component solution, and Cronbach's alpha (a) coefficients for the entire set of 22 variables, Component 1 and Component 2 are 0.82, and 0.80 respectively. This results in high internal consistency and reliability of the overall scale and subscales of the questionnaire.

Self-Reported Language Proficiency Scores

The participants responded to an online self-designed questionnaire measuring their self-reported proficiency in English. In the questionnaire, the participants were asked to report their self-perceived proficiency level in English (L), Speaking (S), Reading (R), and Writing (W) domains of the English language respectively (together referred to as LSRW skills), that was to be indicated on a non-criterion-referenced 11-point scale. Participants' self-reported scores could range from 0 to 10, where 0 represents no knowledge, 1 represents the lowest proficiency, and so on, with 10 being the highest perceived proficiency in the English language. Pearson Correlation Coefficient (r) between the self-reported scores of non-criterion-referenced L, S, R, and W proficiencies are 0.4038, 0.273, 0.4198, and 0.3215, respectively.

C. Procedures

The data was collected online using the Google Form. A total of 165 first-year undergraduate students responded to the study. Data from 113 participants who completed all parts of the study were retained for final analysis. The measures of Achievement Motivation, Metacognitive Strategies, and Self-reported scores of English language proficiencies (skill-wise) were collected through the respective instruments described in the previous section after being transformed into online forms and circulated with informed consent. Even though the questionnaire measures were transformed into an online format, the researcher believed that the sensitivity of the tests was intact. After receiving the responses online, all partially filled response data was excluded and only complete datasets were retained for further analysis in SPSS version 20, and using Excel for descriptive statistical analysis. The data was analysed to explore the possible interaction outcome of the current research.

6. Results

Statistical Analysis

The questionnaires were analysed using basic descriptive statistics of mean, standard deviation of gender, and proficiency. Data was processed, anonymized, coded, and merged into a single database before further analysis.

Comparison by Gender

Analysis 1

Table 1 (below) shows that female participants have a high level of Achievement Motivation (AM) as compared to males (Male: Mean =

142.73; SD = 24.06, Female: Mean =157.49; SD = 22.38) and Metacognitive strategies including cognitive (MS), (Male: Mean = 45.04; SD = 10.85, Female: Mean = 48.43; SD =9.56) as well as behavioural dimensions (BD) (Male: Mean = 16.77; SD =5.33, Female: Mean = 20.17; SD = 3.69). A similar trend is shown in the scores on the overall language proficiency (LP), (Male: Mean = 27.42; SD = 8.13, Female: Mean = 31.72; SD = 5.71).

		Mean	Std. Deviation
AM	Male	142.73	24.06
	Female	157.49	22.38
MS	Male	45.04	10.85
	Female	48.43	9.56
BD	Male	16.77	5.33
	Female	20.17	3.69
LP	Male	27.42	8.13
	Female	31.72	5.71

Table 2. Pearson's Correlations (r) and p-values for the Male and Female participants with respect to the experimental variables: Listening (L), Speaking (S), Reading (R), Writing (W), Metacognitive strategies: (Cognitive) COG1), Behavioural (COG2), Total Language Proficiency (LGPRF)

	Male	Female
L vs. ACH	0.48624 (0.011779)	0.26902 (0.011747)
S vs. ACH	0.37247 (0.06094)	0.21756 (0.04295)
R vs. ACH	0.09657 (0.63883)	0.27251 (0.010660)
W vs. ACH	0.455916 (0.01924)	0.2327 (0.03008)
COG 1 vs. ACH	0.36734 (0.064871)	0.33196 (0.00168)
COG 2 vs. ACH	0.36775 (0.064553)	0.36361 (0.000537)
LGPRF vs. COG 1	0.65894 (0.000251)	0.2262 (0.03517)
LGPRF vs. COG 2	0.44623 (0.02231)	0.41939 (5.2699E-05)

Pearson's correlation coefficient (r) was computed to examine the inter-correlations among the variables for male and female participants separately. The analysis reveals that male participants (r = 0.65894, p-value = 0.000251) are more likely to have a high relationship between overall language proficiency and cognitive dimension of metacognitive strategies as compared to female participants (r = 0.2262, p-value = 0.03517). Males show significantly high correlation values on the relationship of listening (r = 0.48624, p-value = 0.011779), speaking (r = 0.37247, p-value = 0.06094), and writing (r = 0.455916, p-value = 0.01924) with achievement motivation, whereas females have a significantly higher relationship of achievement motivation with reading skills (r = 0.27251, p-value = 0.01066).

Table 3. Between-subjects ANOVA for Metacognitive strategies and Achievement motivation for Male (M) and Female (F) participants with Overall Language Proficiency as the dependent variable

	M					F				
Source	Sum of Squares	df	Mean Square	F	Sg.	Sum of Squares	df	Mean Square	F	Sig.
Correlated Model	775.236	3	258.412	6.482	0.003	547.314	3	182.438	6.724	0.000
	1.738	1	1.738	0.044	0.837	282.879	1	282.879	10.426	0.002
METACOG1	341.014	1	341.014	8.553	0.008	0.260	1	0.260	0.010	0.922
METACOG2	10.886	1	10.886	0.273	0.607	268.538	1	268.538	9.897	0.002
AMS	52.970	1	52.970	1.329	0.261	54.191	1	54.191	1.997	0.161
Error	877.110	22	39.869	2252.066	83	27.133				
Total	21205.000	26		90358.000	87					
Corrected Total	1652.346	25		2799.379	86					

ANOVA Analysis

Male

Our findings indicate an overall significant effect on students' academic achievement, F (3,22) = 1.879, p = 0.001, adjusted R2 = 0.095 with all the three constructs found to be significant predictors namely; students' self-reported total Language proficiency score, Metacognitive strategies: behavioural, and Metacognitive strategies: Cognitive.

The results of an ANOVA analysis for male participants show that metacognitive strategies, especially cognitive dimension (n = 26, F = 8.553, p = 0.008) has a significant effect on language proficiency, whereas behavioural dimension of metacognitive strategies and

achievement motivation has no or little contribution in language proficiency.

Female

Our findings indicate an overall effect on students' academic achievement F (3,83) = 6.130, p = 0.001, adjusted R2 = 0.152 with all the three constructs found to be significant predictors namely; students' self-reported total language proficiency score, Metacognitive strategies: Behavioural, and Metacognitive strategies: Cognitive.

The ANOVA Analysis depicted that female participants show that metacognitive strategies, especially behavioural dimension (n = 87, F = 9.897, p = 0.002) has a significant effect on language proficiency. The cognitive dimension of metacognitive strategies and achievement motivation has relatively little contribution to language proficiency.

Table 4. Summary Statistics of the High Proficiency (HP) (n = 60) (mean age = Years, sd age = Year) and Low Proficiency (LP) (n=53) (mean age = Years, sd age = Year)

		ACH	L	S	R	W	COG 1	COG 2	LGPRF
HP	mean	152..53	7.68	7.03	8.27	7.95	48.35	19.35	30.93
	sd	21.12	1.62	1.85	1.73	1.83	9.67	4.41	6.16
LP	mean	155.87	7.58	6.81	8.19	7.92	46.85	66.28	30.51
	sd	26.05	1.98	2.17	1.58	2.11	10.25	13.28	7.04

Comparison by High/Low Proficiency

To group the participants into those with high and low self-reported language proficiency (LGPRF), the z-score of the LGPRF score was computed in Excel. The median value of the z-transformed LGPRF score was regarded as the cut-off value for high proficiency (HP) vs. low proficiency (LP) groups (median z-score 0.1937).

The comparative analysis between high-proficiency and low-proficiency participants among the other variables is discussed descriptively. Descriptive statistics show that the level of achievement motivation is much higher among learners with low proficiency (Mean = 155.87, SD = 26.05) as compared to high proficiency (Mean = 152.53, SD = 21.12) among the sample. Interestingly, low proficiency participants (Mean = 66.28, SD = 13.28) are scoring high on the behavioural aspect of metacognitive strategies as compared to high proficiency participants (Mean = 19.35, SD = 4.41). Speaking skills (Mean = 7.03, SD = 1.85) are more prominent in the high proficiency group.

Analysis 2

Table 5. Pearson Correlations (r) and p-values for the Low Proficiency (LP) and High Proficiency (HP) experimental groups with respect to the experimental variables: Listening (L), Speaking (S), Reading (R), Writing (W), Metacognitive strategies: Cognitive (COG1), Metacognitive strategies: Behavioural (COG2), Total Language Proficiency Self-score (LGPRF)

	HP	LP
L vs. ACH	0.4330 (0.00054)	0.4296 (0.0013)
S vs. ACH	0.6701 (4.7349E-09)	0.3192 (0.0198)
R vs. ACH	0.6174 (1.4836E-07)	0.1878 (0.1781)
W vs. ACH	0.6979 (5.7517E-10)	0.3101 (0.0239)
COG1 vs. ACH	0.3283 (0.0104)	0.3048 (0.0265)
COG2 vs. ACH	0.4318 (0.0006)	0.3368 (0.0137)
LGPRF vs. COG1	0.4827 (9.3991E-05)	0.3980 (0.0032)
LGPRF vs. COG2	0.5763 (1.4477E-06)	0.4709 (0.0003)

Correlation

Group-level comparison of high and vs. low proficiency correlation showed that Speaking Skill is highly correlated (r = 0.6701; p-value = 4.7349 E -09) with a sense of achievement motivation among the adolescents perceiving high proficiency in English as a second language. Similarly, Reading (r = 0.6174; p-value = 1.4836 E-07) and Writing (r = 0.6979; p-value = 5.7517 E-10) skills are also highly correlated with achievement motivation among the high proficiency group.

Interestingly, participants reporting low proficiency in English language, also display a low correlation coefficient on the comparison between metacognitive strategies and language proficiency scores. Metacognitive strategies including cognitive (r = 0.3980; p-value = 0.0032) and behaviour domain (r = 0.4709; p-value = 0.0003) both have low correlation with total scores of language proficiency among those reporting high self-reported language proficiency.

Table 6. Between subjects ANOVA for Metacognitive strategies and Achievement motivation for High Proficiency (HP) and Low Proficiency (LP) participants with Overall Language Proficiency as the dependent variable

	HP					LP				
Source	Sum of Square	df	Mean Square	F	Sig.	Sum of Square	df	Mean Square	F	Sig.
Corrected Model	560.959	3	186.986	6.230	0.001	786.011	3	262.004	7.175	0.000
	134.536	1	134.536	4.482	0.039	46.119	1	46.119	1.263	0.267
METACOG1	18.364	1	18.364	0.612	0.437	103.355	1	103.355	2.830	0.009
METACOG2	117.034	1	117.034	3.899	0.053	233.477	1	233.477	6.120	0.017
AMS	47.470	1	47.470	1.582	0.214	93.796	1	93.796	2.569	0.115
Error	1680.774	56	30.014			1789.225	49	36.515		
Total	59654.000	60				51909.00	53			
Corrected Total	2241.733	59				2575.245	52			

Analysis of Variance (ANOVA): Proficiency (high/low)

HP: our findings indicate an overall significant effect on students' academic achievement, F (3,56) = 6.130, p = 0.001, adjusted R2 = 0.210 with all the three constructs (AMS, Metacog 1, Metacog 2) found to be key predictors of self-reported language proficiency.

LP: Our findings indicate an overall significant effect on students' academic achievement, F (3,49 = 7.175, p = 0.001, adjusted R2 = 0.263 with all the three constructs (AMS, Metacog 1, Metacog 2) found to be key predictors of self-reported language proficiency.

The ANOVA analysis shows significant variation among the group with high proficiency in language learning (left panel). For the corrected model (F = 6.230, p<0.001) including achievement motivation and metacognitive strategies concerning second language proficiency, is found to be significantly prominent. In the case of metacognitive strategies, the behavioural aspect (F = 3.899, p<0.053) shows statistically significant variability for obtaining mastery over second language acquisition.

The results of an ANOVA analysis in which the corrected model (F = 7.175, p<0.000) of regression analysis contributes significant differences among the low-proficiency participants when achievement motivation and metacognitive strategies are applied together. Here, statistically significant variance is seen among the low proficiency group in terms of behavioural aspects of metacognitive strategies (F = 6.120, p<0.017).

7. Discussion

The present study explores the role of achievement motivation and metacognitive strategies for defining self-reported language proficiency. The results from Table 1 depict the comparative descriptive analysis, which shows that female participants, as compared to male participants, are more likely to exhibit metacognitive competence and are highly motivated to achieve their goal concerning language proficiency, especially the behavioural aspect of metacognitive strategies. To answer RQ 4, the results are consistent with other studies that report female participants using self-monitoring, goal setting, and planning more than male participants. The correlation analysis also shows that metacognitive strategies and language proficiency are closely related to each other in the case of the male participants. It indicates that male participants are likely to be dependent on their behavioural metacognitive abilities to learn the second language.

ANOVA analysis for males shows that metacognitive strategies have a significant impact, especially the cognitive dimension on language proficiency and the results answers RQ 1. It indicates that learning English as a second language, makes learners use their cognitive competence to have an appropriate evaluation of skill training. These results are consistent with previous findings that thinking about their own ability impacts students' capability of language learning and mastery of the skill of a second language and how to learn as well as monitor one's learning (Usama et al., 2024). In our sample, the behavioural aspect of metacognitive strategies and achievement motivation had no statistically significant contribution to second language acquisition.

The ANOVA analysis for female participants depicts the significant contribution of the behavioural dimension of metacognitive strategies which contributes most to facilitating mastery over the acquisition of English as a second language. Metacognitive strategies facilitate learners to plan, track, and appraise the concepts in an effective manner that leads to language acquisition being more impactful and sustainable. (Staton et.al., 2021). Banking on the above discussion we conclude that there is a significant effect of metacognitive strategies on male and female participants on different dimensions but the motivational aspect has little or no impact on obtaining proficiency in language skills.

The descriptive analysis shows that the low proficiency group performs better, especially on achievement motivation and behavioural aspects of metacognitive strategies. It indicates that while gaining mastery over the second language, the lower proficiency participants rely more on their behavioural performance. Consequently, control over second language acquisition due to the application of metacognitive strategy (behavioural aspect) may enhance the level of achievement motivation or vis-à-vis in the case of the lower proficiency group. Most of the researchers are advocating that a high level of motivation to achieve the goal leads to mastery skills of second language proficiency (Acheson, Nelson, & Luna, 2015) but due to the nature of our sample, our results are relatively inverse here.

Pearson correlation analysis revealed that achievement motivation stimulated higher language proficiency among the group. Acquiring

reading and writing skills, particularly in the second language acquisition process, is essential to a sense of achievement motivation (RQ 2). Learners who are highly motivated to achieve the goal have a good sense of mastery over language skills. The results are supported by two recent studies explaining that when the expectation of success is high along with effective teaching, Content and Language Integrated Learning (CLIL) has a positive effect on motivation and progress in language learning (Dornyei, 2009; Alam et al., 2022). On the other hand, participants exhibiting a low level of proficiency also perform lower in application metacognitive awareness (cognitive) and metacognitive regulation (behavioural) aspects.

The ANOVA analysis shows that the correlated model of linear regression contributes significant variance with the behavioural aspect of metacognitive strategies for the high proficiency group, this answers RQ 3. It demonstrates that learners show significant acquisition of second language proficiency especially due to behavioural changes in the articulation of the language skill. Motivational factors may contribute indirectly as involvement in goal-directed behaviour is also an indicator of optimal level of motivation. Similar results have also been reported by others. Thus, the correlated mode (regression model) reveals that behavioural changes or active involvement in goal-directed behaviour led to gaining proficiency in second language acquisition.

The low proficiency group shows that the correlated model of regression analysis contributes statistically significant variance for language proficiency. It reveals that metacognitive strategies and achievement motivation together facilitate the process of obtaining second language proficiency. Recent research also shows concordance with our results that low proficiency or low achievers are not able to achieve mastery over language acquisition due to non-compliance with cognitive strategies and motivation. (Griffith & Ruan 2005).

Previous studies have shown that motivation plays an important role in language learning along with metacognitive strategies. Motivation, along with language ability, is an important factor that facilitates success in learning a second language in a classroom setting (Alam et al., 2024c). Our study explores the role of achievement motivation and metacognitive strategies used regarding self-reported English language proficiency among ESL learners. Motivational orientation is always central in any language learning research and achievement motivation plays an important role when a potential learner decides to learn a foreign language. (Alam et al., 2024a; Alam & Hameed, 2023). Achievement goal orientation including a positive attitude towards the goal leads language learners to obtain efficiency (Rachvelishvili, 2017).

Metacognition can be considered a learner's mental processes of planning and monitoring while they are learning or undertaking a task, and a purposeful association in the learning process (Brown et al., 1983). Swanson (1990) characterizes metacognition as people's familiarity with their capacity to screen, manage, and control their own exercises concerning learning. Wilson (1998) views metacognition as information and consciousness of reasoning cycles and procedures (along with the capacity to assess and arrange these cycles). Scarr and Zanden (1984) describe metacognition as people's mindfulness and cognizance cycles of controlling their psychological state, abilities, memory, and conduct. Thus, metacognition is an important factor in implementing the learning process in the field of critical thinking. Heppner (1988) hypothesized three scales for the critical thinking measure, including critical thinking certainty (trusting in one's capacities to take care of the issue), individual command over feelings and practices (trusting one can handle his feelings and practices while taking care of genuine issues of life) and direction aversion adapting styles (the person's inclination or evasion to tackle social issues. Several investigations on metacognition and critical thinking show that metacognitive guidance supports the learners' capacity to tackle issues more readily in the light of the fact that metacognitive techniques improve their endeavour to take care of learning issues.

Metacognition can be characterized as the capacity to ponder what is known and does not just include recollecting an occasion, depicting what occurred, and the sentiments related to it. Metacognition brings about basic; however solid reflection and assessment of reasoning that may bring about rolling out explicit improvements in how learning is overseen. Solid metacognitive abilities engage students: when students ponder over their learning, they become better set up to settle on cognizant choices about how they can deal with improving their learning. O'Malley and Chamot (1990) highlight the importance of metacognition when they describe, "Understudies without metacognitive methodologies are basically students without course or freedom to design their learning, screen their advancement, or survey their achievements and future learning bearings" (p. 8). Metacognition in language learning can be partitioned into five essentials and converging segments: a) getting ready and planning for learning; b) choosing and utilizing techniques; c) observing learning; d) arranging methodologies; and e) assessing learning. Summing up we can say that metacognitive awareness along with motivation results in meaningful learning activities.

8. Conclusion

The study demonstrates that students with high metacognitive competence are highly motivated to achieve their goals concerning language proficiency. The findings suggest that metacognitive strategies and language proficiency are closely related to each other. The analysis shows that metacognitive strategies and motivation have a significant impact on language proficiency. They help learners improve their problem-solving, critical thinking, monitoring, and evaluation skills. The study shows that motivation, along with the use of metacognitive strategies, is an important factor for successful learning in a classroom setting. The above analysis shows that the low-skill group performed particularly well on the behavioural aspect of achievement motivation and metacognitive strategies. This indicates that while learning a second language, less proficient participants rely more on their own behaviours. Consequently, control over second language acquisition due to the application of cognitive strategies (behavioural aspects) may increase the level of achievement motivation or competition in the case of a low-proficiency group. Most researchers are advocating that high levels of motivation to achieve a goal led to second language proficiency.

Acknowledgments

The authors extend their appreciation to Prince Sattam bin Abdulaziz University for funding this research work through the project number (PSAU/2023/02/25837).

Authors' contributions

Dr. Farhan Ahmad was responsible for study design, data collection and drafting. Dr. Sohaib Alam was responsible for revising it. All authors read and approved the final manuscript.

Funding

This research work was funded through the project number (PSAU/2023/02/25837), Prince Sattam Bin Abdulaziz University.

Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Sciedu Press.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

References

Acheson, K., Nelson, M. E., & Luna, K. (2015). Measuring the Impact of Instruction in Intercultural Communication on Secondary Spanish Learners' Attitudes and Motivation. *Foreign Language Annals, 48*, 203-217. https://doi.org/10.1111/flan.12132

Bandura, A. (1993). Perceived Self-efficacy in Cognitive Development and Functioning. *Educational Psychologist, 28*(2), 117-148. https://doi.org/10.1207/s15326985ep2802_3.

Bloom, P., & Markson, L. (1998). Intention and Analogy in Children's Naming of Pictorial Representations. *Psychological Science, 9*(3), 200-204. https://doi.org/10.1111/1467-9280.00038

Dornyei, Z. (1998d) Motivation in Second and Foreign Language Learning. *Language Teaching, 31,* 117-135.

Dörnyei, Z. (2001b). New Themes and Approaches in Second Language Motivation Research. *Annual Review of Applied Linguistics, 21*, 43-59. https://doi.org/10.1017/S0267190501000034

Dornyei, Z. (2001e). *Motivational Strategies in the Language Classroom*. Cambridge: Cambridge University Press.

Dornyei, Z. (2005c). *The Psychology of the Language Learner: Individual Differences in Second Language Acquisition*. New York: Routledge.

Dornyei, Z. (2009f). The L2 Motivational Self System. In Z. Dornyei, & E. Ushioda (Eds.), *Motivation, Language Identity and the L2 Self, Clevedon: Multilingual Matters*.

Dornyei, Z., & Ushioda, E. (2011a). *Teaching and Research Motivation*. New York: Routledge.

Ellis, R. (2008). *The Study of Second Language Acquisition*. Oxford: Oxford University Press.

Erica M. B., & S. Joy Stephens (2019) Supporting Mathematics Vocabulary Instruction through Mathematics Curricula, *The Curriculum Journal*, *30*(3), 322-341. https://doi.org/10.1080/09585176.2019.1614470

Flavell, J. H. (1976a). Metacognitive Aspects of Problem Solving. In L.B. Resnick (Ed.), *The Nature of Intelligence* (pp. 231-236). Hillsdale, NJ: Erlbaum.

Flavell, J. H. (1979b). Metacognition and Cognitive Monitoring: A New Area of Cognitive–Developmental Inquiry. *American Psychologist, 34(*10), 906-911. https://doi.org/10.1037/0003-066X.34.10.906

Gałązka, A., & Trinder, M. (2016). Locus of Control and Receptive Skills in Second Language Acquisition. *NewEducational Review*, *46*(4), 130-141. https://doi.org/10.15804/tner.2016.46.4.11

Gardner, R. (2010). *Motivation and Second Language Acquisition: The Socio-Educational Model*. New York: Peter Lang Publishing.

Gardner, R. C. (2006). The Socio-Educational Model of Second Language Acquisition: A Research Paradigm. *EUROSLA Yearb*, *6*(1), 237-260. https://doi.org/10.1075/eurosla.6.14gar

Gardner, R. C., & MacIntyre, P. D. (1993). On The Measurement of Affective Variables in Second Language Learning. *Language Learning, 43*(2), 157-194. https://doi.org/10.1111/j.1467-1770.1992.tb00714.x

Griffith, P. L., & Ruan, J. (2005). What is metacognition and what should be its role in literacy instruction? In S. E. Israel, C. C. Block, K. L. Bauserman, & K. Kinnucan-Welsch (Eds.), *Metacognition in Literacy Learning: Theory, Assessment, Instruction, and Professional Development* (pp. 3-18). Mahwah, NJ: Lawrence Erlbaum Associates.

Harputlu, L., & Celan, E. (2014). The Effects of Motivation and Metacognitive Strategy Use on EFL Listening Proficiency. *Procedia: Social and Behavioural Sciences, 158*, 124-131. https://doi.org/10.1016/j.sbspro.2014.12.056

Heppner, P. (1988). *The Problem-Solving Inventory*. Palo Alto, CA: Consulting Psychologists Press.

Hidayat, R., Zulnaidi, H., Syed, Z. SNA (2018) Roles of Metacognition and Achievement Goals in Mathematical Modeling Competency: A Structural Equation Modeling Analysis. *PLOS ONE, 13*(11), e0206211. https://doi.org/10.1371/journal.pone.0206211

Judge, T. A., Erez, A., Bono, J. E., & Thoresen, C. J. (2002). Are Measures of Self-Esteem, Neuroticism, Locus of Control, and Generalized Self-Efficacy Indicators of a Common Core Construct? *Journal of Personality andSocial Psychology, 83*(3), 693-710. https://doi.org/10.1037/0022-3514.83.3.693.

Mahant, P., K., Alam, S, Ghosh S., & Jabeen., I. (2023). Shifting learning atmosphere through process drama: teaching English POS in Indian classrooms. *World Journal of English Language, 13*(8*)*, 288-298. https://doi.org/10.5430/wjel.v13n8p288

Mieszkowska, K., Łuniewska, M., Kołak, J., Kacprzak, A., Wodniecka, Z., & Haman, E. (2017). Home Language Will Not Take Care of Itself: Vocabulary Knowledge in Trilingual Children in the United Kingdom. *Frontiers in Psychology, 8*, 1358. https://doi.org/10.3389/fpsyg.2017.01358

Muijs, D., & Bokhove, C. (2020). Metacognition and Self-Regulation: Evidence Review. London: Education Endowment Foundation. Retrieved November 14, 2023 from https://educationendowmentfoundation.org.uk/evidence-summaries/evidence-reviews/metacognition-and-selfregulation-review/

Naderi, S., Ajmal, M., Keezhatta, M. S., & Alam, S. (2021). Stroke Effect of English Teachers on the Learners' L2 Motivational Self-System. *TESOL International Journal*, *16*(2), 106-121.

O'Malley, J. M., & Chamot, A. U. (1990). *Learning Strategies in Second Language Acquisition*. Cambridge, UK: Cambridge University Press.

Peek, R. (2016). Exploring Learner Autonomy: Language Learning Locus of Control in Multilinguals. *International Journal of Multilingualism, 13*(2), 230-248. https://doi.org/10.1080/14790718.2015.1090991

Pintrich, P. R. (2000). The Role of Goal Orientation in Self-Regulated Learning. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of Self-regulation* (pp. 451-502). Academic Press. https://doi.org/10.1016/B978012109890-2/50043-3

Rachvelishvili, N.B. (2017). Achievement Motivation Toward Learning English Language in Modern Educational Context of Georgia. *Problems of Education in the 21st Century, 75*(4), 366-374.

Saito, K., Dewaele, J. M., Abe, M., & In'nami, Y. (2018). Motivation, Emotion, Learning Experience, and Second Language Comprehensibility Development in Classroom Settings: A Cross-Sectional and Longitudinal Study. *Language Learning, 68*(3), 709-743. https://doi.org/10.1111/lang.12297

Scarr, S., &Vander Zanden, J. (1987). *Understanding Psychology* (5th ed.). New York: Random House.

Schneider, W., & Lockl, K. (2002). The Development of Metacognitive Knowledge in Children and Adolescents. In T. Perfect & B. Schwartz (Eds.), *Applied Metacognition* (pp. 224-258). Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511489976.011

Skehan, P. (1991). Individual Differences in Second Language Learning. *Studies in Second Language Acquisition*, *13*(2), 275-298. https://doi.org/10.1017/S0272263100009979

Smith, S. A., Briggs, J. G., & Pothier, H. (2018). Exploring Variation in Reading Comprehension among Young Adult Spanish–English

Bilinguals: The Role of Environmental Language Contact and Attitudes Toward Reading. *International Journal of Bilingualism, 22*(6), 695-716. https://doi.org/10.1177/1367006917690913

Stanton, J. D., Sebesta, A. J., & Dunlosky, J. (2021). Fostering Metacognition to Support Student Learning andPerformance. *CBE life sciences education, 20*(2), fe3. https://doi.org/10.1187/cbe.20-12-0289

Swanson, H. L. (1990). Influence of Metacognitive Knowledge and Aptitude on Problem Solving. *Journal of Educational Psychology, 82*(2), 306-314. https://doi.org/10.1037/0022-0663.82.2.306

Teng, M. F., Wang, C., & Wu, J. G. (2021). Metacognitive Strategies, Language Learning Motivation, Self-Efficacy Belief, and English Achievement During Remote Learning: A Structural Equation Modelling Approach. *RELC Journal, 0*(0). https://doi.org/10.1177/00336882211040268

Usama. M, Alam. S, Hameed, A., Ahmad. F., & Iliyas., S. (2024). Web-based vs. mixed mode instruction utilizing e learning via LMS: a comparative study. *International Journal of Information and Education Technology, 14*(4), 612-619.

Wells, A. (2000). *Emotional Disorders and Metacognition: Innovative Cognitive Therapy*. John Wiley & Sons Ltd.

Wilson, J. (1998). Assessing Metacognition: Legitimizing Metacognition as a Teaching Goal. *Reflec*t, *4*(1), 14-20.

Wolters, C. A. (2004). Advancing Achievement Goal Theory: Using Goal Structures and Goal Orientations to Predict Students' Motivation, Cognition, and Achievement. *Journal of Educational Psychology, 96*(2), 236-250. https://doi.org/10.1037/0022-0663.96.2.236

Y.V. Chon & Shin, T. (2019). Profile of Second Language Learners' Metacognitive Awareness and Academic Motivation for Successful Listening: A Latent Class Analysis. *Learning and Individual Differences, 70*, 62-75. https://doi.org/10.1016/j.lindif.2019.01.007.

Yves, K. (2016) Differences in Students' Metacognitive Strategy Knowledge, Motivation, and Strategy Use: A Typology of SelfRegulated Learners, *The Journal of Educational Research, 3*(109), 253-265. https://doi.org/10.1080/00220671.2014.942895