Academic Self-Efficacy in Reading as a Predictor of Metacomprehension among Arabic Nonnative Speakers

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Abstract   The study aims at exploring the predictive relationship between self-efficacy in reading; age; and metacomprehension among nonnative speakers of Arabic. Two tests are administered: academic self-efficacy in reading test and metacomprehension test. Sixty three students were randomly sampled from enrolled students in King Saud University. The results indicate that the total estimation of academic self-efficacy in reading test is high, and of metacomprehension test is also high. Referring to a significant correlation between the total scoring of metacomprehension test and age; correlation coefficient of (0.270), as well as statistically direct correlation on the total score of metacomprehension test and academic self-efficacy; correlation coefficient of (0.509).

Keywords   Self-Efficacy, Metacomprehension, Arabic Nonnative Speakers

1. Introduction

Academic self-efficacy affects reading in a direct manner, presented with the thinking patterns and behavior; Individuals with a strong sense of self-efficacy focus thinking on the analysis of facing problems, and tries to reach appropriate solutions which in turn affects their behavior positively, while individuals with doubt in their self-efficacy tend to think internal, and drown themselves in worries when faced with demands and problems from the surrounding environment, this way of thinking is negative, it generates tension and leads to losing control over behavior; it limits the effectiveness of cognitive ability use. Satisfying individuals' needs to develop self-efficacy occurs through educational positions characterized in creativity and concept learning[1]. Self-efficacy is considered a key component of social cognitive theory, which believes that the individual has the ability to adjust his behavior as a result of his personal beliefs; Individuals in this theory have a system of self-beliefs that enables them to control their emotions and ideas[2],[3].

Academic self-efficacy is "all that the individual believes he owns of abilities that enables him to control his academic abilities", and this represents a framework of individuals' behaviors which are related to socioeconomic environment. In addition highly academic self-efficacy learners stress on the high academic standards and combine encouraging classroom environment and powerful academic adjustment

and give academic activities more time, they also praise their academic achievements and they may be less vulnerable to tension[4].

Bandura believes that self-efficacy affects many aspects of an individuals' behavior as the choice of activities; tends to choose activities believed to be successfully performed, and avoids choosing activities believed to fail when performed, depending on individuals' beliefs about self-efficacy, learning and achievement. Individuals with high academic self-efficacy tend to learn and achieve better compared with low sense of self-efficacy counterparts. Self-efficacy also affects the amount of effort and determination an individual owns; high sense of self-efficacy individuals tend to exert more effort and determination to achieve their goals; while individuals low sense of self-efficacy tend to be lazy and to exert little effort to achieve their goals.[5],[6]

Beliefs of self-efficacy develops based on four main sources, they are according to[7],[5],[8]:

• Mastery Experiences: all successful experiences supports the self-efficacy of the individual; If success recurs more often in certain activities the individuals sense of self-efficacy increases, while failure recurrence decreases individuals' sense of self-efficacy.

• Vicarious Experiences: are experiences derived from surrounding social models. Individual's sense of self - efficacy increases when an individual recognizes that his peers are able to complete some task.

• Persuasion: self-efficacy beliefs are influenced by persuasion that an individual receives from some people who are reliable in performing a task.

• Physiological and Affective States: self-efficacy beliefs are influenced by the level of emotional arousal, i.e. high emotional arousal affects self-efficacy negatively.

Accordingly, the manner in which individuals think, believe and feel affects their behavior because it forms the individual key behavior dynamics. An individual interprets his accomplishments depending on the abilities he believes he has, which makes him exert utmost efforts to achieve success. The impact of perceived self-efficacy through the help to estimate the amount of effort needed to perform a certain task, the amount of perseverance in confronting obstacles, and the amount of solidity in difficult situations. Whenever the sense of self-efficiency increases the effort, perseverance and solidity increases[9],[10].

Schunk[11] confirms that highly self-efficacy individuals believe that they have the ability to accomplish tasks assigned to them successfully, while low self-efficacy individuals tend to surrender when confronted with certain tasks. Schunk[12] believes that self-efficacy in its own does not determine academic achievement for students; a student must be aware of the value of the task to exert needed effort to accomplish it, he should also have some knowledge about the task, and the skill to accomplish it. Individuals who are confident of their academic skills expect to get high grades in exams and expect to be distinguished for mastering tasks assigned to them[13],[14],[15].

This study explores reading self-efficacy and its relationship with metacomprehension particularly as far as the researcher knowledge none is done over it. Shang[16] confirms that assimilation is affected by many skills necessary for academic success in general, and the ability of reading assimilation in particular. He pointed that individual differences in the ability to assimilate reading depends mainly on differences between them in reading, reading self-efficacy may determine whether an individual will continue to exert effort or stop when confronted with a certain literacy task. If the individual does not trust his ability to read he will be less willing to engage in reading and less willing to continue in accomplishing it. While if the individual believes he is a successful reader, he will enforce himself to learn more and persist in confronting literacy challenges[17],[18]. Educational studies suggest that student's engagement in reading is related to their academic success and their self-perceived as readers[19]. It was found that students engagement in reading accounts for (16%) of their assimilation[20].

The term metacomprehension refers to "individual's ability to judge what he learned, and assimilated of texts, when individuals judge what they have learned and what they did not learn; they can focus their attention on the information not learned, and if their metacomprehension accuracy is weak, they will not be able use their judgments in guiding learning rightly[21],[22], metacomprehension accuracy is measured in two accuracy types: Relative Accuracy, which refers to the relatedness degree between individuals judgments and performance on tests. When relative accuracy of judgments for a certain term contrasts what is expected, and there are difficulties in judging the term, the individual tries to retrieve target which he sought for and uses it in judging. In trying to retrieve each definition

the individual becomes able to assess the quality of his own recall. The other type; absolute accuracy which is related to individuals exaggerated judgments, i.e. when an individual judges that he has learned the content of a certain text then his performance in the test turns not good enough, then his judgment would have been exaggerated[23],[24],[25]. Sensitive text readers are affected by the way they process and represent the text, assimilation is improved when readers are conscious that the structure of the text may have an effect on the reader's idea of what helps in understanding the text[26],[27].

In spite of the importance of academic self-efficacy in improving the level of metacomprehension, the literature in this area is little globally and rare in the Arab society. One striking study is Chamot, Robbins & El-Dinary,[28], conducted a study to investigate the effect of using cognitive and metacognitive teaching strategies and social strategies on self-efficacy. The study sample consisted of 120 students enrolled in Japanese, Russian and Chinese universities. Learning strategies test related to repetition strategy is used, as well as self-efficacy test concerned with students' cognition ability to accomplish literacy tasks. The results indicated that there is a positive correlation between repetition reading strategies usage and students' awareness of self-efficacy.

To examine the effect of study habits on metacomprehension Hess[29] conducted a study on a sample of (106) students enrolled in the University of Virginia in USA. The researcher used metacomprehension test. The results indicated that individuals who use proper studying habits analyze texts in depth, and achieve a high level of metacomprehension, while students who do not use appropriate study habits analyze texts superficially and their metacomprehension level is low.

Moor, Zabrucky & Commander[30] study aims to find the effect of age differences on self-assessment of metacomprehension components and verbal ability. The sample consisted of (30) children, and (30) youth. Metacomprehension test is used in the study. The results indicated that younger individuals demonstrated metacomprehension skills more than youths.

To reveal the impact of reading repetition on metacomprehension accuracy Rawson, Dunlosky & Thied[25] conducted a study on 80 students randomly selected from Kent State University. The sample was divided into two experimental groups: the first group read the text once, and other read the text twice. Metacomprehension test and literacy texts are utilized. Results indicate that the group who read twice developed a significant improvement in metacomprehension accuracy. Results also indicate the existence of a statistically significant positive correlation between metacomprehension and academic achievement.

Arabeyat[31] conducted a study that aims to explore the impact of cognitive and metacognitive teaching strategy on reading assimilation on (72) students enrolled in 10th grade, they were divided into an experimental group (36 students) and a control group (36students). The results showed

statistical differences in students' median in grades between the two groups in reading assimilation attributed to using the proper teaching strategy in favor of the experimental group.

Karen, Diane and Eliiot[32] conducted a study aiming to reveal the relationship between metacomprehension and students performance in reading and academic achievement. The sample consisted of (414) students in the fourth grade in Rhode Island city. The researchers utilized reading texts and metacomprehension test. The experiment revealed a statistically significant relationship between metacomprehension and academic achievement.

Halasah[33] conducted an experimental study to explore the impact of reading strategy in assimilation and critical thinking among first secondary students (literary stream) in al-Karak Governorate. The sample (102 male and female students) was divided into an experimental group (52 students) and a controlled group (52 students). Results indicated that there is a statistical difference in assimilation and critical thinking between the two groups in favor of the experimental group attributed to the reading strategy.

Bleicher & Lindgren[34] explored the relationship between assimilating scientific concepts and self-efficacy. The researchers used the assimilation of scientific concepts, in addition to personal interviews. The sample consisted of 49 students from two divisions in the scientific education department at the university. The study showed that students' grades increased statistically. There was a correlation between self-efficacy and assimilating scientific concepts and the positive educational experience in high school, the researchers said that the relationship between the scientific concepts assimilation and self-efficacy is a reciprocal dialectic relationship accounted by motivation relation to performance.

To detect the relationship between consciousness of metacomprehension strategy, and assimilation of reading York[35] conducted a study on 132 students from eighth grade at a middle school in the U.S. The researcher used narrative texts as indicators of metacomprehension strategy. No statistically significant differences are found in the consciousness level of metacomprehension of the narrative texts attributed to the type of text. The results indicated that there is a positive statistically significant correlation between the consciousness of metacomprehension strategies and reading assimilation.

Patrick, linda, Paul, Rene & Marybeth[36] study aimed at examining the impact of academic efficacy in reading assimilation. The sample consisted of 76 students from a Northeastern University. Subjects were asked to make a judgment about the effectiveness of reading. The results found an impact on reading assimilation attributed to academic self-efficacy.

Nofal[37] in another area tries to explore the impact of three cognitive strategies; acquired knowledge, reading assimilation and formal organized in developing student's metacomprehension consciousness in reading strategies among 10th graders enrolled in UNRWA/ Zarqa- Jordan.

The sample total number (168) distributed among two groups; an experimental group which received teaching using the three strategies, a controlled group which received traditional teaching. Results show there is no statistical difference in the development of metacomprehension consciousness among the students attributed to gender.

Anderson & Thiede[38] conducted a study to identify the impact of summary time writing of the text immediate versus delayed summaries on metacomprehension judgment accuracy. The study sample consisted of (87) students from Boise State University. The results indicate that the metacomprehension accuracy improved when summaries are written immediately following reading the texts, and that individuals build metacomprehension judgments on the essence of the text, and relied on details when writing summaries immediately following reading.

Zaq[39] dealt with the level of perceived academic self-efficacy among students enrolled in the University of Jordan in the light of gender, college and studying level. His sample consisted of 400 undergraduate students. The level of academic self-efficacy is average. Differences were found in the level of academic self-efficacy attributed to the school level. But no difference was found in the level of academic self-efficacy attributed to gender. These results agree with Nofals'[37] regarding self-efficacy. Nofals' sample consisted of 84 students from elementary middle schools in the state of Pennsylvania/ USA. Results indicate that the level of self-efficacy in reading among students is averaged.

Rahimi & Abedini[40] aims to explore the role of readers' self-efficacy in listening assimilation. The study sample consisted of (61) freshmen. The results found a relationship between self-efficacy in listening assimilation and listening efficacy.

Barnes[17] conducted a study to examine the impact of self-efficacy on reading achievement. A total of (131) student from secondary schools in Illinois/ U.S. participated in the study. The researcher used the reading self-efficacy test. Statistically significant differences are found in achievement in reading attributable to self-efficacy in reading.

Yusheng & Yang[41] explored the relationship between reading self-efficacy and the use of metacomprehension strategies, the sample consisted of (182) male and female students from the University of South China, ages ranging between (18-22) years. It was found that reading self-efficacy is associated with the use of reading strategies in general, and with metacomprehension strategies.

Shang[16] conducted a study to investigate the effect of using reading strategies on self-efficacy, and to study the relationship between using reading strategies and self-efficacy on reading assimilation. The sample consisted of (53) male and female students from Shaw University in Japan. The results indicated that there is a positive correlation between using reading strategies and students' awareness of self-efficacy, a statistically significant relationship is also found between self-efficacy and reading

assimilation.

A striking study of Paula[42] examined the relationship between academic efficacy and metacomprehension. The sample consisted of (420) undergraduates. It was found that there is a statistically significant relationship between academic self-efficacy and metacomprehension strategies.

Mostafa & Sajad[43] discussed the relationship between the academic reading efficacy and reading strategies. Southern Iranian high school students (no. 45) participated in the study. The researcher used the academic reading efficacy questionnaire and reading strategies questionnaire. The correlation between academic reading efficacy and reading strategies was positive.

Mahdieh & Elaheh[44] studied the relationship between academic reading efficacy and reading strategy and reading assimilation among Iranian nonnative speakers. The sample consisted of (59) male and female students. The researchers used three tests; academic reading efficacy, reading assimilation, and reading strategy. It was found that academic reading efficacy is correlated with both reading strategy and reading assimilation.

The previous literature show that: academic efficacy is averaged[37]; there is a correlation between academic efficacy and; metacomprehension[41],[42]; readingassimila tion[16],[36],[34],[44]; listening assimilation[40]; reading strategies[43],[44],[28]; and achievement[17]. It was also found that there is a positive correlation between metacomprehension strategies and; reading assimilation[35] reading repetition[25]; reading habits[29]; reading achieve ment and reading performance[32]; and summarization[38]. Differences in reading assimilation are attributable to strategic reading[33] and to the teaching strategy[31]. The literature results found an impact of age group in self and academic efficacy[39]. Younger students showedmetacomp rehension skills more than older students[30]. Finally, results also indicated that gender has no effect on academic self-efficacy[37].

Nonetheless there is a gap (As far as the researcher knows) in the literature of academic reading self-efficacy and metacomprehension, and this study tries humbly to bridge this gap.

1.1. Study Problem

It is noticed in the educational field in teaching nonnative speakers of Arabic in different psychology courses that the average number of students enrolled in universities lack the skills needed for success. And because many students have law self- efficacy and less metacomprehension strategies, it is reflected on their academic achievement confidence as the current educational situation shows in the form of general weakness in reading, and a decline in the level of reading assimilation in particular.

The weakness in reading assimilation represents weakness in metacomprehension strategies which in its turn is a major cause of academic failure, and it is negatively reflected on individuals' sense of self-efficacy. This study sought to

detect "academic self-efficacy reading and its relationship with metacomprehension." More specifically the research attempts to answer the following questions:

First: What is the level of academic reading self-efficacy among the students sample?

Second: What is the metacomprehension level of among the students in the sample?

Third: What is the nature of the correlation between academic self-efficacy in reading and metacomprehension and its dimensions? Are there correlation significant differences at ($\alpha = 0.05$) attributed to age variable?

Fourth: how far academic self-efficacy in reading and the age variable predicts metacomprehension among the students in the sample?

1.2. Significant of the Study

The importance of this study comes from attempting to identify the relationship between academic self-efficacy in reading and metacomprehension, in the light of age variable, and the ability of academic self-efficacy in reading and age variable to predict of metacomprehension. In addition to what the study will add to knowledge, or the extent of its educational applications. The study also enables us to predict of metacomprehension strategies students use while learning. It may also contribute to the enhance non-native speakers of Arabic level, in addition to enriching the educational process with new ways to develop metacomprehension strategies and raise the efficacy level of the individuals themselves.

The researcher believes that giving the students an opportunity to assess their levels in academic self-efficacy in reading may enable them of making decisions to help develop usage of metacomprehension to become more effective, which may be reflected on the improvement of academic performance in general.

The importance of this study stems also from the scarcity of previous studies examining academic self-efficacy in reading and its relationship with metacomprehension. Revealing this relationship will facilitate proper educational guidance, which should be accounted for when developing plans and future educational programs; in courses and study plans, or in independent training programs. A lot rests on the universities in the development of thinking and increasing the level of academic self-efficacy metacomprehension.

The study may also orient the center of teaching Arabic to non-native speakers to adopt new strategies that may increase the level of the students and promote teaching strategies of the Arabic language, thus contribute to increase academic self-efficacy in reading as well as improve the strategies of metacomprehension.

1.3. Procedural Definitions

Academic self-efficacy in reading: is procedurally defined with the total score obtained by the examinee on academic self-efficacy test in reading, which was developed for the purpose of the study.

Metacomprehension means in the current study the total

score obtained by the examinee on metacomprehension test.

1.4. Determinants of the Study

The present study is limited by the following factors:
• It is concerned with nonnative speakers of Arabic.
• The study sample constitutes males only.
• The study is determined by the psychometric characteristics of the used tools, namely: academic self - efficacy in reading test and metacomprehension test.
• The study is limited by its duration.
• The study is determined by its statistical analysis.

So the results of the current study are valid for generalizing on its statistical community and similar statistical communities.

1.5. Study Variables

Independent variables: academic self-efficacy in reading and age group. Dependent variables: metacomprehension.

2. Methods and Procedures

The research presents a description of the sample; it also presents a presentation of procedure of applying, correcting and data collection, in addition to the statistical methods used in processing and analyzing data.

The study sample: consisted of 63 students who speak Arabic as a Foreign Language, age average of (25.9831) years, all enrolled in at King Saud University.

Study Measures: the current study requires two tests for verification purposes, namely: academic self-efficacy in reading test, and metacomprehension test, clarified as follows:

First: academic self-efficacy in reading: the research developed an academic self-efficacy test from several studies related to this topic as of Wang[45], Wong[46], Henks & Melnick[47]. The primary test included (36) items.

2.1. Test Validity is Ensured through

Arbitrator's validity: the content of the test in this study is presented in its final form (before the application) to eight faculty arbitrators. They validated the test in terms of the language used, items clarity, and appropriateness of the items to measure the target. They also provided comments that were considered. Four items were deleted, some items language was modified. 77% of the arbitrators indicated that the test is proper for the study.

Construction validity: The test was applied on a pilot sample from the study community (no. 30 students); correlation coefficient is calculated for each item to get a total score of the test, coefficients of the test is statistically significant, correlation ranged between (0.65-0.35). The test is considered valid, and may be used for the purposes of this study.

Test stability: stability refers to the accuracy and consistency of the test (i.e. to reapply it on an individual gives the same result, as long as the individual is not changed. To ensure the stability of the test in the current study it was applied on a pilot sample of (30 students) randomly selected from the study population. Stability was verified through testing of two ways:

Internal Consistency: which refers to internal consistency of the sample responses to each item of the test. Internal consistency is calculated through reliability coefficient test; Cronbach Alpha (0.81).

Test-Retest: the test was applied and re-applied with an interval of two weeks. The reliability coefficient (Pearson) was calculated; it scored a total of (0.87).

Correcting academic self-efficacy test: the final version of the test (30) items, located on five-point scale; the examinee scores the item according to his beliefs of self-efficacy. Grades were distributed as follows: one degree If the answer is (not true at all), and two if the answer is (rarely), and three degrees if the answer is (do not know), and four if the answer is (correctly), and five If the answer is (absolutely true). Thus the maximum score is (150), and the lowest is (30). The adopted statistical standard for average calculation of the single item and for the test as a whole as follows: (1-2.32) for the low level of self-efficacy in reading; (2.33-3.66) for the average level of self- efficacy in reading; and (5.00-3.67) for the high level of self- efficacy in reading.

Table 1. Reliability coefficient of metacomprehension test and its dimensions

Metacomprehension test and dimensions	Top of Form Cronbach's alpha (Internal consistency)Bottom of Form	Stability of repetitionBottom of Form	No. of items
anxiety	0.66	0.74	4
achievement	0.55	0.61	3
organization	0.47	0.59	3
task	0.68	0.66	3
assimilation ability	0.66	0.77	3
strategy	0.71	0.84	3
control center	0.77	0.67	3
total of the test	0.87	0.86	**22**

Second: metacomprehension test: to measure metacomprehension the research used Moore, Zabrucky & Commander [30] test. The test contains (22) items covering 7 dimensions: Anxiety; Achievement; Strategy; Assimilation; Task; Control Center; Organization.

2.2. Test Validity is Ensured through

Arbitrator's validity: the content of the test in this study is presented to eight faculty arbitrators. They validated items appropriateness to measure the target. They also provided comments that were considered. Some items language was modified. 85% of the arbitrators indicated that the test is proper for the study.

Construction validity: The test was applied on a pilot sample from the study community (no. 30 students); correlation coefficient is calculated for each item to get a total score of the test, coefficients of the test was statistically significant, correlation were high and ranged between (0.77-0.39).

Test stability: stability is verified by applying the test on a pilot sample (no. 60) through two methods:

Test-Retest method: the test was applied and re-applied with an interval of two weeks. The Pearson coefficient was calculated; it scored a total of (0.86). The second method is to calculate the internal consistency of the test by calculating the reliability coefficient. Cronbach Alpha internal total consistency test scored (0.87). The reliability coefficient values for each dimension are shown in Table 1.

Correcting metacomprehension test: the test contains (22) items, total score ranges between 22 (lowest possible score) and 110 (highest possible score). The average is categorized as follows: (1.49 or less, very low); (1.50- 2.49, little); (2.50-3.49, medium); (3.50- 4.49, high); and (4.50 or more, very high) to determine metacomprehension level for individuals in the sample[48].

2.3. Procedures of the Study

The present study followed the following steps:

- The two tests used are prepared and validity and reliability of them are ensured these tests are: academic self-efficacy test in reading, and metacomprehension test.

- Total number of students who speak Arabic as a foreign language, and enrolled in the second semester of the scholastic year 2012-2013 is obtained from the Admission and Registration Deanship at the university, the information obtained included (their majors and courses registered).

- Total study population is determined, in addition to selecting a randomly stratified cluster sample.

- Classes of students are chosen from all faculties at the university.

- The tests are distributed to students and necessary instructions are clarified.

- Answering the tests items is exemplified and that answers are used for research purposes only, and will be dealt with confidentially.

- The study sample was given enough time to answer the tests and examinee inquiries are answered.

2.4. Statistical Analysis

The analysis for the study was conducted using IBM-SPSS. To answer the first question: the mean and standard deviation of academic self-efficacy test in reading is calculated; To answer the second question: means and standard deviations of metacomprehension test and its dimensions are calculated; To answer the third question: linear relations are calculated using Pearson equation between academic self-efficacy test and metacomprehension test and its dimensions according to age variable; To answer the fourth question: Multiple regression analysis is used to detect the extent of academic self-efficacy test in reading and age in predicting metacomprehension level.

3. Results

The present study aims to identify the level of academic reading self-efficacy level and metacomprehension level of speakers of Arabic as a foreign language, as well as to identify the nature of the relationship between academic reading self-efficacy on one hand and metacomprehension ability on the other, and the impact of age variable in the correlation. The study also aimed to identify the extent of academic self-efficacy in reading contribution and age in predicting of metacomprehension among students sample by answering the following questions:

First: To answer the first research question "What is the level of academic self-efficacy in reading among the students sample?" means and standard deviations were calculated of academic reading self-efficacy test.

The total estimate of test scores on academic reading self-efficacy is high, scoring a mean of (3.934) and a standard deviation of (0.352). It is apparent that there are 25 items scoring high grades ranging between (4.00- 4.34); and 5 items scoring average grades ranging between (3.97-3.22).

This result may be interpreted by the nature of undergraduates and the availability of needed studying skills, and success in the university. In addition to the university interest in teaching the skills and techniques of reading to non-native speakers of Arabic through focusing efforts to private centers that teach Arabic; it should be noted that the focus in this phase is on reading for research purposes among undergraduates.

The result might be attributed to the fact that non-native speakers of Arabic have little skills of Arabic, so they exert more effort to know the meaning of the vocabulary to understand a certain text and to identify its meaning especially when the text is rich with unknown vocabularies or when the context meanings is not clear. Thus the text is ambiguous and complex. This in turn creates a motivation and a desire to overcome difficulties and solve the mystery. Student become more alert and focused, which increases their ability to keep with the track of ideas and meanings and to perceive the relations between the causes and results and

to reach conclusions, all of which leads to the development of performance. Graduates seem to have high expectations of success, the success for the first time has a positive impact on other successes "Success breeds success."

It also may be explained by the strong programs offered to students at the center of teaching Arabic for non-native speakers, and to the effectiveness of guidance at King Saud University, that seeks to raise the level of academic reading self-efficacy among students, and to weapon them with the knowledge and skills necessary for studying and success. The results of this study contradict Nofals'[37], which indicates that the level of academic self-efficacy is averaged.

To answer the second research question: What is the metacomprehension level among the students in the sample?"

Weighted means and standard deviations of metacomprehension test and dimensions were calculated in order to compare the dimensions that may have different number of items. The dimensions of metacomprehension test are arranged descending according to the Mean value, as shown in Table 2.

From Table 2 you notice that the total score of metacomprehension is a lot with a mean of (3.653) and a standard deviation of (0.328), metacomprehension dimensions order is as the following: achievement, assimilation ability, organization, strategy, and last is control center with a high score; but the task and anxiety ranked sixth and seventh scoring a medium degree, this is also apparent in figure 1.

Table 2. averages and standard deviations of metacomprehension test and its dimensions according to the rank

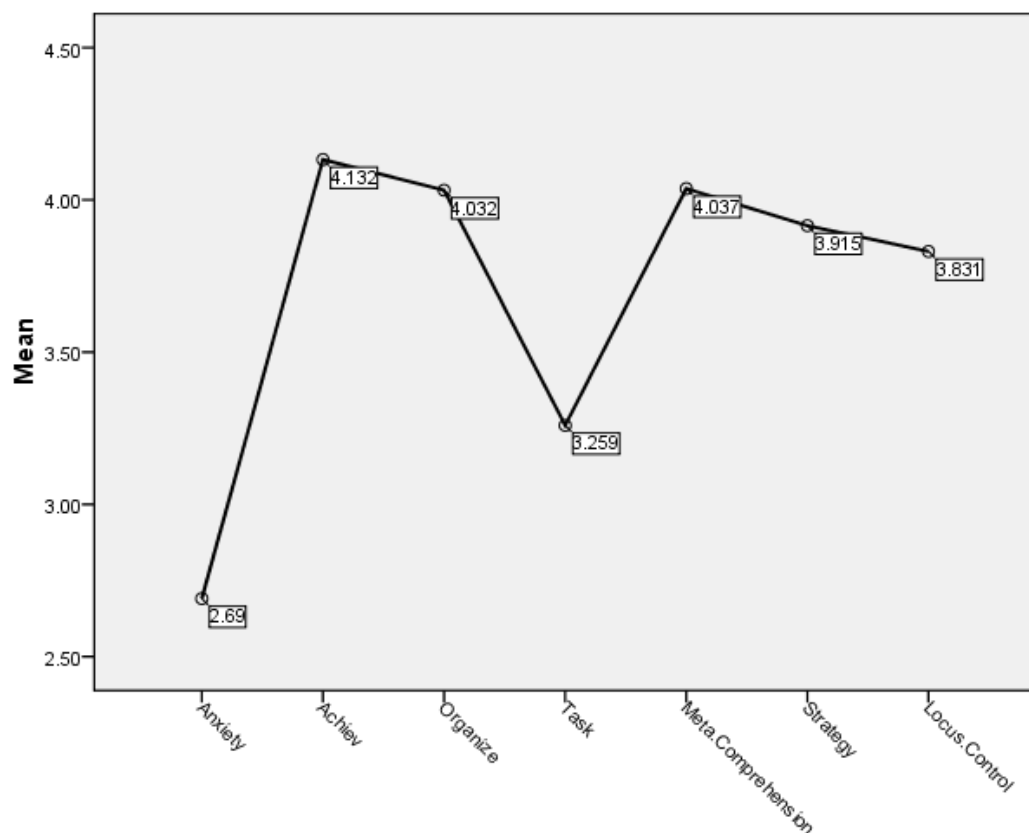| dimension No.	rank	averaged age	metacomprehension test and its dimensions	mean	standard deviation	No. of items	appreciation degree
2	1		achievement	4.132	0.62	3	a lot
4	2		assimilation ability	4.037	0.682	3	a lot
7	3		organization	4.031	0.751	3	a lot
3	4	25.9831	strategy	3.915	0.627	3	a lot
6	5		control center	3.83	0.633	3	a lot
5	6		task	3.259	0.797	3	medium
1	7		anxiety	2.69	0.806	4	medium
			total score	3.653	0.328	22	a lot

Figure 1. Graphical representation of metacomprehension averages

This result may be interpreted by the educational environment provided by the university; as providing an opportunity for the students to predict and interpret in the process of studying, and what associate this of interactive social climate that contribute to increase the students awareness and integration with the text and development of metacomprehension, and the ability to brainstorm, because this profound text processing lead to the practice of predicting and interpreting effectively, which leads to positive results at the metacomprehension level. The result may also be interpreted by the estimates of students conscious associated with mental reading processes that appear while reading. If the goal sought by the students is critical reading, they tend to focus, and if the goal is get a total meaning they tend to scan, but if the goal is to predict they focus on the correlations of the text. The ability to know the methods and compositions and read different styles in the texts is considered the essence of metacomprehension; Moreover, students who have a "high" score in metacomprehension have the ability to decode and translate codes of the text into meaning then to assimilate them, i.e. they are good readers.

This result may be interpreted by the fact that non-native Arabic undergraduate speaker perform advanced mental activities to be able to assimilate the text and this also requires a critical mental; an assessment of the meaning; the ability to conclude and generalize; to draw implicit and explanatory meanings relevant to the text; access to the depths of the text to establish relationships and systems; the ability to judge the text; employ the text; interact between the reader and the text; and deep understanding of text minutes while reading; correlate the information found in the text with prior knowledge of the reader all of which are essential requirements for metacomprehension practices.

It may also be explained by the fact that students devote themselves to perform their work properly as much as possible, they have an ability of endurance and determination, they struggle to achieve their goals, because they have a high level of ambition, perseverance, and are distinguished by their will to know from others, this is attributed to being expatriates and came from different countries for the purpose of learning, they are also more capable of self-assessment and management in planning, organization and evaluation. It is also noted that they are motivated to excel and get high grades out of the desire to achieve themselves and their goals; Accordingly, they are expected to be more eager to practice literacy strategies to achieve maximum assimilation that facilitate development of academic achievement. The foregoing shows that these students have high intrinsic motivation; and they have a desire to challenge and master business, and enjoy their efforts when doing duties and they are more focused, exciting and vital. They look to achieve high goals. They prefer new challenging tasks and effort exerting. They perceive previous experiences of success as an indicator of their high capacity. They also perceive failure as a challenge they have to confront. Intrinsic motivation is considered a potential energy, it helps to overcome the difficulties and problems and carry work with enthusiasm, which makes them superior in achievements. Intrinsic motivated students focus thinking on the requirements and challenges of the task, and react to these challenges with enthusiasm.

To answer the third research question: What is the nature of the correlation between academic self-efficacy in reading and metacomprehension and its dimensions among non-native speakers of Arabic?

To determine the type of correlation between academic reading self-efficacy and metacomprehension and its dimensions Pearson correlation coefficient is calculated between scores of the tests in relation with age variable, as shown in Table 3.

Table 3. Linear correlation coefficients calculated by Pearson correlation coefficient for metacomprehension dimensions and academic reading self-efficacy and age variable

Top of Form variable Bottom of Form	Self-efficacy	Age	Anxiety	Achievement	Organization	Task	assimilation ability	Strategy	Control Center
Self-efficacy	**1**								
Age	**0.026**	**1**							
Anxiety	-0.201	**0.246**	**1**						
Achievement	0.363**	**0.249**	0.067	**1**					
Organization	0.336**	**-0.041**	0.079-	0.271*	**1**				
Task	0.347**	-0.177	-0.579**	-0.063	0.133	**1**			
Assimilation ability	0.462**	0.353**	-0.045	0.436**	0.13	0.117	**1**		
Strategy	0.360**	-0.1	-0.225	0.342**	0.344**	0.367**	0.392**	**1**	
Control Center	0.23	0.360**	0.419**	0.413**	79	-0.391**	0.301*	0.112	**1**
Total score of metacomprehension Bottom of Form	0.509**	0.270*	0.286*	0.673**	0.538**	0.123	0.636**	0.617**	0.566**

*: statistically significant at $\alpha \leq 0.05$; **: statistically significant at $\alpha \leq 0.01$

Table 3 notices a direct statistically significant correlation at the (α = 0.05) between the overall degree of metacomprehension test and age scoring a correlation coefficient of (0.270), there is also a direct statistically significant correlation at (α = 0.01) in the linear correlations between academic reading self-efficacy test and metacomprehension test and its dimensions and age. There is also a linear correlation on the total score of metacomprehension test and academic self-efficacy scoring a coefficient of (0.509), a correlation between academic reading self-efficacy and metacomprehension dimensions as follows: (assimilation ability, achievement, strategy, task, organization) in descending order according to the strength of the relationship, as well as a correlation between age and metacomprehension test and its dimensions control center and assimilation ability in a descending order according to the strength of the relationship.

As may be seen in Table 3 there is a direct statistically significant correlation at (α = 0.05) in the linear correlation of total score of metacomprehension and anxiety, as well as a linear correlation of metacomprehension dimension; It is found that there is a correlation between control center and assimilation ability; organization and achievement. And a statistically significant relation at (α= 0.01) in the total score between metacomprehension and: achievement, assimilation ability, and strategy and control center in a descendent order according to the correlation strength. There is also a linear correlation between metacomprehension dimensions; the assimilation ability and achievement scored the highest correlation (0.436), followed by control center and anxiety, then control center and achievement. Strategy and achievement scored the least correlation of (0.342).

As for the negative correlations at (α = 0.01), some negative linear correlations of metacomprehension and both of the task and anxiety scoring (0.579-), and between control center and task scoring (-0.391).some direct insignificant correlations are found between independent variables and the dimension of metacomprehension, such as the correlation between age and achievement and anxiety, and between reading self-efficacy control center, As well as a significant negative correlation between reading self-efficacy and anxiety.

The correlation between academic reading self-efficacy and metacomprehension in the light of age by reading motivation at this stage being extrinsic; Students read in order to succeed in subjects and their reading self-efficacy is affected by the mastery expertise they experience; With age students master a lot of the reading skills, which will reflect on their ability to assess their literacy abilities; and the development of metacomprehension strategies. So it is noted that the self-efficacy in reading improves with age level. Self-efficacy is also affected in reading by the students emotional state; in passing to different levels of studying students feel more comfortable and they enjoy studying; which reflects positively on their reading self-efficacy which in turn enhances metacomprehension skills.

The correlation between total score of metacomprehension test and the dimensions of achievement, assimilation ability, strategy, control center, and organization is descending according to the strength of the correlation by the positive impact of metacomprehension strategies in general, these strategies are considered of the most important in the development of thinking in general, as it helps students to assimilate during the process of reading, it also works on developing assimilation ability and all of strategy, control center, and organization. It is explained by the role of strategies in the mental nurturing to develop thinking for assimilation purposes.

Organization is considered an important element of metacomprehension, such as organizing ideas and information with the fewest number of words, and to drive the main idea of the subject and access the main objective which is understand and comprehending the text. Control center is not different in importance it works on facing difficulties that hinder understanding of texts. It helps the reader to interact with the content and prior knowledge to expand the knowledge of the current content. It helps to understand the ideas of the text, thus enabling students to set real clear goals that may be accomplished and learned.

The strategy dimension is considered one of the most important functional strategies that students need in their scientific and practical life, by which they may simplify the content of the text by dividing it into main and sub ideas. What explains the correlation between metacomprehension and assimilation ability is that students possess a high degree of metacomprehension, which give them the ability to decode and translate the text into meanings and then assimilate it, i.e. they are good readers who may read and understand the meaning and assimilate reading.

Table 4. Multiple regression coefficients to predict total score of metacomprehension skills through the variables of age and self-efficacy

variables	The value of non-standard regression coefficient		The value of standard regression coefficient	t value	significance level
	beta	standard error			
constant	23.805	9.571	--	2.487	0.016
Age	0.421	0.172	0.256	2.442	0.018
self-efficacy	0.385	0.072	0.56	5.343	0.001

There is no doubt that students' possessing of the previous skills explains the high correlation between metacomprehension and achievement.

The results of the previous question agreed with the results of several studies, a correlation is found between academic efficacy and metacomprehension[41],[42] reading assimilation[44],[16],[36],[34]; strategies readers use[44],[28],[43]; and achievement[17].A correlation is also found between strategies of metacomprehension and reading assimilation[35] and with reading repetition[25],[29]. Differences in assimilation ability attributed to the following are found: reading strategy[33]; achievement and reading performance [32]; summarization[38]. An impact is found of age on academic self-efficacy (al-zeq, 2009). The results contradicted with Moor, Zabrucky & Commander[30] study that proved younger students demonstrate more metacomprehension skills.

To answer the fourth research question: how far academic self-efficacy in reading and the age variable predicts metacomprehension among the students in the sample?

Multiple linear regression analysis is used in finding the contribution of academic reading self-efficacy and age in predicting metacomprehension. No extremist values are found in the data. (R= 0.621) shows a statistically significant correlation between the variables of age and self-efficacy skills of metacomprehension F (2, 56) = 17.603, p<0.01, which explained the variance of metacomprehension skills, of age and self-efficacy. R-square 0.364. As shown in Table 4.

From Table 4 notice that the value of the regression coefficient for the age is (0.421) and it is statistically significant. From beta standard value one notices that contribution of self-efficacy is higher than age variable when the two variables in the predictive model together. The predictive equation may be formulated as follows: Metacomprehension skills = 23.805 + 0.421 * Age + 0.385 * self-efficacy.

As shown above, there is a positive predictive correlation between reading self-efficacy and age on one hand, and the use of metacomprehension strategies on other among non-native speakers of Arabic; this may be because students with reading self-efficacy are more perseverance to perform tasks compared to students who do not believe in their ability to perform the tasks. This means that students having reading self-efficacy as an outcome of a wide range of different literacy strategies, and they have the ability to identify literacy strategies that suits the nature of their studies. Students who feel efficient in reading, tend to use metacomprehension strategies in able to read effectively.

This may be due to the experience students witness while studying. Students begin university life having preliminary literacy strategies, but as they pass through different grades and age, courses offered to them require an exercise of critical and analytical reading, which increases their experiences. This result may be explained in the light of the courses nature; specialized and advanced courses require a critical mind, an assessment of the meanings and a testing of

ideas and information; which means that recruitment of advanced literacy strategies as metacomprehension strategies and metaknowledge.

This may be attributed to self-efficacy impact with vicarious experiences that an individual draws from surrounding social models. The individuals feeling of self-efficacy increase when they note that peers are able to perform a certain task; Undergraduates become more vulnerable to social models as teachers and friends.

This may be explained by the purpose of reading; students read for different purposes: reading to learn new information, reading for a certain task, reading to understand, and reading for enjoyment. The student who reads for assimilation for instance will have high concentration while reading which requires applying metacomprehension strategies and compensation reading strategies. This may be attributed to courses concentration and methodologies used with these strategies. Methods and courses confirm repeating information for the students and the use of remembering aids. Some teachers tend to provide information to students in an orderly fashion such as determining the outline of the text to be learned, and sometimes teach them how to infer main idea of the text. Some teachers also tend to employ detailed strategies as summarization, note taking, explaining ideas to others, and ask questions about the text and get answers, all of which are considered metacomprehension reading strategies.

4. Recommendations

In light of the results the research provides the following:
Study metacomprehension and its relation with two dimensions of metacomprehension; task and anxiety; Study the relationship between age and two dimensions of metacomprehension; achievement and anxiety; Investigate the impact of academic reading self-efficacy on two dimensions of metacomprehension; control center, and anxiety; Include courses with special texts increase metacomprehension level in the following dimensions; strategy, control center, and organization; Conduct further studies on the dimensions of metacomprehension as strategic and achievement; Intensify guidance programs that help students increase the academic reading efficacy in reading and metacomprehension; Study the impact of gender and scientific specialization and academic reading self-efficacy on metacomprehension.

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