



RESEARCH ARTICLE

Evaluating English Language Teachers' Practices Using Concept Mapping Strategy in Saudi Intermediate Schools

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ABSTRACT

The current research aims to determine how English language teachers employ a concept mapping strategy while teaching intermediate-stage students in the Al-Qassim region. It also examines whether statistically significant differences exist in their responses regarding the level of implementation of the concept mapping strategy in teaching the English language. These differences are analyzed concerning the variables of gender and job rank. The study was conducted on a sample of 75 English language teachers in the intermediate stage in the Al-Qassim region, including 30 male teachers and 45 female teachers, selected through purposive sampling. The research findings indicate that both male and female English language teachers in the Al-Qassim region employ the concept mapping strategy to a high degree. There were no statistically significant differences between the average scores of the male and female groups of English language teachers. However, English language teachers who held the 'expert teacher' rank were found to use the concept mapping strategy more than their counterparts. The findings suggest numerous practical implications, which could prove crucial for English language teachers, students, and policymakers in the Saudi context.

INTRODUCTION

The teacher is considered one of the fundamental pillars of the educational process and is responsible for achieving the objectives of education to bring about positive changes in student behaviour (Ahmed et al., 2021). Every student has a unique cognitive structure. Learning becomes meaningful when the subject matter genuinely aligns with their prior knowledge (Gareis and Grant, 2015; Liu and Dong, 2016).

Al-Dougan (2022) One of the most significant theories for effective teaching, facilitating students' acquisition, retention, and knowledge transfer, is

Janier's theory. This theory centres on the role of prior learning and its impact on subsequent learning. Furthermore, Bruner's theory also plays a role in students' learning, emphasizing the organization of study materials (Grazzani and Brockmeier, 2019; Meidrina et al., 2017; Waheed and Jam, 2010). Next, Ausubel's theory of meaningful learning integrated Janier's and Bruner's theories, emphasizing the learner's prior cognitive structure (Bryce and Blown, 2023). In cognitive learning methods, the teacher presents the student with clear steps to acquire and apply new information in learning, thinking, and problem-solving. These steps also facilitate

the processing of information in various forms. Furthermore, the student's responses offer the course instructor valuable insights into what the students have truly learned and what they may have yet to grasp within the teaching context. They reveal how students develop advanced cognitive skills, including analysis and evaluation, moving beyond superficial understanding toward long-lasting knowledge. Achieving this educational outcome necessitates using teaching strategies that guide students' past memorization and encourage analysis, interpretation, and connection (Al-Dougan, 2022).

In this context, concept maps focus on retrieving students' prior knowledge and integrating it with new information in an organized manner (Schroeder, 2018). They activate metacognitive processes in long-term memory, supporting meaningful learning. Concept maps help distinguish similar concepts and reveal text ambiguities and inconsistencies, facilitating meaningful learning. This strategy is among the latest, with many researchers using it to enhance students' information-processing abilities and promote self-directed learning (Cañas et al., 2017; Zarei and Feizollahi, 2018; Zubaidah et al., 2018). The rapid growth of knowledge has generated a keen interest in learning (Danbagh, 2021).

This modern technique relies on presenting concepts in a logical order. Concept maps are defined as two-dimensional or multi-dimensional drawings that reflect the concepts of the content structure of a text. They are organized in a sequential manner that takes a hierarchical shape. The general or overarching concept is placed at the top of the map, and under it, the more specific concepts are gradually arranged in the lower levels. Concepts of equal significance are placed on the same level, with links illustrating the relationships between the main and subsidiary concepts.

Conley (2008) highlighted that what sets modern societies apart is their rapid evolution in preparing individuals for success and teaching them to think in alignment with their abilities and readiness. This underscores the importance of 'education for thinking' as a primary educational objective. It entails using efficient techniques that engage students' senses and stimulate their minds to help them develop concepts and skills related to the presented material.

Concept maps are essential in this endeavour because they emphasize meaningful learning and seek to bring learners to a deeper understanding. This is accomplished by tying new ideas to the learner's prior understanding (Baker et al., 2010; Machado and Carvalho, 2020).

Using concept maps in English language instruction is crucial because they help students understand the language acquisition process, which improves their cognitive skills and capacity for thought (Chen and Hwang, 2020; Kassem, 2017). By connecting new knowledge to prior concepts and encouraging students to actively participate in creating a solid, integrated cognitive structure based on a central concept, they help students learn meaningfully. Additionally, they encourage original thought, clarify misconceptions, and address difficulties students may encounter while learning English language content (Hazaymeh and Alomery, 2022). They establish connections between different language concepts. Furthermore, concept maps help students retain learning for a longer duration and reduce feelings of anxiety, tension, or fear of making mistakes in practising the English language (Ariyanti et al., 2023). They also help to change students' attitudes towards complex concepts in the language (Hwang et al., 2019). Al-Mawla (2009) noted that using mind maps enhances deep comprehension skills among English language students and captures their attention during reading. Mind maps typically begin with a specific topic or idea as a starting point for creating the map. They also promote the ability to organize, categorize, and deduce information. This approach encourages students to explore deeper and uncover new insights within the text, fostering creativity in their map design.

van de Pol et al. (2020) mentioned that the strategy of concept maps goes through several steps in its construction, as follows:

- Identifying the topic
- Reading the topic and extracting its fundamental concepts
- Writing down the concepts
- Organizing the concepts from general to specific
- Using the order as a guide to construct the concept maps in a vertical line format, where the more general concepts are placed at the top, and

the subsidiary concepts related to the central concept are placed below

- Placing the concepts in boxes, oval shapes, or circles and connecting them with lines
- Placing sentences or appropriate words on the lines to describe the relationship or connection between the concepts
- Modify the concept maps, considering the feedback from learners.
- Give learners ample time to read, contemplate, and derive conclusions from them.
- Conduct a final evaluation to ensure their organization, order, and the learners' understanding of them.

Buzan (2006) mentioned the forms of concept maps based on the learned material. They take various forms: hierarchical, spider, dual, and cognitive.

Hierarchical concept map: The more general and comprehensive concepts are at the top of the map; underneath them are the more specific and less comprehensive concepts. The hierarchical gradient and classification in the form of ideas enhance cognitive ability.

Spider concept map: There is a central concept upon which everything is based, and more specific concepts branch out from it. It is a visualization and description of ideas in the cognitive content field.

Dual concept map: Comparative, similar, and dissimilar aspects of concept attributes dominate it. A large amount of information can be written on this map, which is used to develop evaluative thinking and easily organize the comparison process. It can be employed to highlight similarities and differences.

Cognitive art concept map: It compares two subjects and their characteristics.

Existing literature mentioned that there are 400 forms of concept maps. Upon examining them, many similarities were found among their constituent elements. Therefore, these were classified them into eight basic types later on, as follows:

- Circle map
- Bubble map
- Double bubble map
- Tree map
- Brace map
- Flow map
- Multi-flow map

- Bridge map

Numerous studies and research projects have explored using concept maps as a teaching strategy. For example, Al-Dougan (2022) focused on identifying essential teaching skills for instructing a linguistic skills course using concept maps. The study also aimed to assess the extent to which students in the experimental group possessed these teaching skills and to test the hypothesis that statistically significant differences existed at the 0.05 level in the average learning outcomes of student teachers in the linguistic skills course for kindergarten children. This comparison was made between the control group, taught using traditional methods, and the experimental group, taught with concept maps.

Al-Dougan (2022) applied the quasi-experimental approach and used the self-assessment form as a research tool for 31 student teachers. The research results showed that the teaching skills necessary for teaching the linguistic skills course using concept maps can be summarized into three primary skills: planning, presentation, and evaluation. According to the self-assessment form, the student teachers possess these skills to a large extent. The results also proved the effectiveness of concept maps in developing teaching skills among student teachers and developing linguistic skills for kindergarten children.

Rubiyah et al. (2018) aimed to determine the impact of concept maps on eighth-grade students' academic achievement in the basic education stage in Arabic grammar rules. The study was conducted in training schools affiliated with the Faculty of Education at Al-Batana University in Sudan. This study included a sample of 60 students chosen intentionally and divided into two groups: 30 students in the control group were taught using the traditional method, and 30 students in the experimental group were taught using the concept mapping technique. The research results showed statistically significant differences in academic achievement in the Arabic grammar rules for the eighth grade between the control and experimental groups in favour of the experimental group.

The goal of the study by Al-Ta'ani (2021) was to find out how using concept maps could help seventh-grade students do better on a test about the reproduction

unit of living organisms in science and on a test about Arabic grammar rules. The study also sought to ascertain the degree to which concept maps were similarly effective in raising students' proficiency levels in both subjects. A sample of 64 students from two different classes participated in the study. Concept maps were used to teach one class in the experimental group, which was chosen randomly. In contrast, the other class was selected to represent the control group, taught using the traditional method for both subjects. The results showed statistically significant differences in favour of the experimental group for both subjects after post-tests compared to the control group's performance. There were also statistically significant differences in favour of the experimental group in distinguishing and applying scientific concepts in both subjects. Moreover, it was observed that the students' levels improved similarly in both subjects after applying the strategy.

The goal of Al-Balawi's study from 2022 was to find out how well a computerized learning program based on concept maps improved the academic performance and creative thinking of first- and second-grade students in Al-Mutawiroon private schools in Riyadh regarding computer science. The researcher employed the quasi-experimental method with two groups: experimental and control. The researcher used the Torrance Test of Creative Thinking (Form B) and an academic achievement test. Both were applied to 60 students in the first intermediate grade at Al-Mutawiroon private schools in Riyadh (30 experimental and 30 control). The study results indicated that the computerized educational program based on concept maps contributed to developing creative thinking and its various dimensions (fluency, flexibility, and originality) and the student's academic achievement.

Problem statement

Given the literature review, it becomes evident that there is a need to assess the extent to which English language teachers at the intermediate stage use concept maps in the Al-Qassim region. Concept mapping strategy is crucial in explaining complex concepts to students (Chang et al., 2022). However, more studies need to be conducted in the Saudi context generally and in the Al-Qassim region. Moreover, a few studies have been conducted in the

Saudi context regarding using a concept mapping strategy to teach Arabic (Al-Bluwi, 2022; Al-Dougan, 2022; Rubiyah et al., 2018). However, limited studies focused on concept mapping strategies while teaching English. Therefore, the present study intends to fill these gaps in the body of literature.

Research objectives

The current research aims to uncover the extent to which English language teachers in the intermediate stage practice concept maps in the Al-Qassim region of Saudi Arabia. It also seeks to determine if there are statistically significant differences in practicing the concept mapping strategy based on the variables of gender and job rank.

Research questions

- What is the degree to which English language teachers in the intermediate stage practice conceptual maps in the Al-Qassim region?
- Are there statistically significant differences in practicing the concept mapping strategy based on the variables of gender and job rank?

RESEARCH METHODOLOGY

The descriptive research method was employed in this study. The researcher aims to identify the extent to which English language teachers in the intermediate stage practice conceptual maps in the Al-Qassim region and recognize their differences based on gender, job rank, and years of experience.

Research population and sample

The research population consists of English language teachers in the intermediate stage in the Al-Qassim region for the academic year 1444H.

The pilot sample

The researcher randomly selected 25 teachers (both male and female) to verify the reliability and validity of the tool used in the study and ensure the appropriateness of its items for the intended purpose. The questionnaire was distributed to them, and they were given two weeks to respond to the questionnaire items.

The main sample

The main sample consisted of 75 English language teachers in the intermediate stage in the Al-Qassim region: 30 male teachers and 45 female teachers. They were chosen using a purposive sampling technique. According to Creswell and Creswell (2017), studies

that seek participants with comparable attributes should use homogeneous, purposeful sampling. He further affirmed that a researcher must specify the specific qualities he or she seeks in the target population. In the current study, the target teachers were chosen based on the nature of the research community, the required precision level, and the homogeneity among the study community members concerning the property being investigated by the researcher. This approach was adopted to enhance the accuracy of the results and confidence in them.

Regarding the sample size, van Rijnssoever (2017) affirmed that the sample size in purposive sampling is determined based on the saturation point. The saturation point refers to a point where the collected information starts repeating. Therefore, the data was collected from only 75 English language teachers in the present study as the saturation point was reached.

Research instrument

The research tool is a questionnaire titled "The Use of Concept Mapping Strategy in Enhancing Student Learning of the English Language at the Intermediate Stage," which was developed by the researcher. The questionnaire aims to identify the extent to which English language teachers in the intermediate stage in the Al-Qassim region practice using concept maps.

The questionnaire consists of two parts. The first part includes basic information such as gender (male

or female), job rank (practising teacher, advanced teacher, expert teacher), and years of experience (1–5 years, 6–10 years, and more than 10 years). The second part contains 22 statements spread over five ratings (i.e., 5 = strongly applies to 1 = strongly doesn't apply).

Standardization of the research tool

To standardize the research tool, its validity was determined. The details of the validation process are presented in the following paragraphs.

Validity of the tool

Expert validity: Initially, the questionnaire was presented to five experts specializing in curriculum and teaching methods in English at the College of Education, Qassim University. They were asked to express their opinions about the items in the questionnaire, the accuracy and clarity of the statements, their appropriateness for the target group, and their relevance to the study's domain. The experts unanimously agreed on the appropriateness of the formulation and its relationship to its axes. Their feedback was consistent, suggesting the removal of some statements and the rephrasing of others.

Internal consistency validity of the study tool: The researcher calculated the internal consistency of the sample's responses for each statement in the questionnaire. The following table illustrates these results.

Table 1: Internal consistency of the statements regarding the use of concept mapping strategy in Enhancing students' learning of English language in middle school

No.	Statements	Correlation Coefficient	Significance Level
1	I prioritize using concept maps for the topic in the English language lesson	0.728**	0.01
2	I connect concept maps with modern learning strategies for the English language	0.749**	0.01
3	I monitor and guide students during the concept mapping activity in English	0.434**	0.05
4	I distribute the English-language content according to the application of concept maps	0.467**	0.05
5	I help students organize their thoughts while applying the concept mapping strategy in English	0.728**	0.01
6	I divide students into groups during the application of the concept mapping strategy	0.749**	0.01
7	I assign students homework activities related to concept maps in English	0.454*	0.05
8	I evaluate students' performance when drawing concept maps in English	0.650**	0.01

Cont.....

No.	Statements	Correlation Coefficient	Significance Level
9	I use concept maps to solve some educational problems in English	0.577*	0.01
10	I use concept maps to increase students' linguistic acquisition in English	0.523*	0.05
11	I use concept maps to teach grammatical rules in English	0.729**	0.01
12	I prepare concept maps suitable for individual differences among students in English	0.732**	0.01
13	I developed self-assessment skills in students during the concept map activity	0.640*	0.01
14	I link the concept maps in English to other subjects	0.447*	0.05
15	I emphasize the continuous use of concept maps in learning concepts and vocabulary in English	0.660**	0.01
16	I utilize concept maps for the transfer of learning	0.644*	0.01
17	I diversify the use of concept maps to help students retain linguistic concepts in English	0.532*	0.05
18	I use concept maps to attract students' attention in English	0.838**	0.01
19	I use diverse concept maps in English to improve students' academic level	0.636*	0.01
20	I prioritize the use of concept maps that develop students' critical and creative thinking skills	0.444*	0.05
21	I prioritize using concept maps that present information in an organized manner	0.630**	0.01
22	I prioritize using concept maps that remove ambiguity in acquiring new skills	0.467**	0.05

** Significant at 0.01 level; * Significant at 0.05 level

It is clear from Table 1 that the correlation coefficient values for each statement ranged between (0.447* – 0.838**). All of these values are statistically significant at the 0.01 significance level. Meanwhile, the statements numbered (3, 4, 7, 10, 14, 17, 22) are significant at the 0.05 level. Therefore, the

questionnaire statements are considered valid for the purpose they were designed to measure.

Reliability of the questionnaire

The researcher calculated the Cronbach's alpha coefficient for the responses of the pilot sample. The results are presented in the following table:

Table 2: Cronbach's alpha coefficient for measuring the reliability of the questionnaire on the use of conceptual map strategy in enhancing students' learning of the English language in middle school

Questionnaire	Number of Items	Cronbach's Alpha Value
Questionnaire on the use of conceptual mapping strategy in enhancing students' learning of English language in middle school	22	0.877

As observed from Table 2, the calculated reliability coefficients are acceptable values. The Cronbach's Alpha coefficient for all items of the study tool is 0.877. This is a high-reliability coefficient, indicating that

the questionnaire has a high and acceptable level of consistency, allowing for the study's objectives to be achieved with greater confidence.

Research findings

To answer the first research question, arithmetic means and standard deviations were extracted for the degree to which middle school English teachers in the

Al-Qassim region practice concept mapping. Table 3 illustrates this.

Table 3: Arithmetic means and standard deviations for the degree of practice of middle school English teachers in the Al-Qassim region towards concept mapping, ranked in descending order based on the arithmetic mean

No.	Statements	Arithmetic Mean	Standard Deviation	Degree
1	I prioritize the use of conceptual maps for the lesson's topic in English	4.035	0.830	High
2	I connect conceptual maps with modern learning strategies for English	3.857	0.840	High
3	I follow and guide students during the conceptual mapping activity in English	3.40	1.102	Medium
4	I distribute the English content based on the application of conceptual maps	3.607	1.102	High
5	I assist students in organizing their thoughts during the application of the conceptual map strategy in English	3.892	1.102	High
6	I divide students into groups during the application of the conceptual map strategy	3.714	1.107	High
7	I ask students to perform homework activities related to conceptual maps in English	3.6786	1.04	High
8	I assess students' performance while drawing conceptual maps in English	3.392	0.908	Medium
9	I use conceptual maps to solve some educational problems for students in English	3.857	0.749	High
10	I use conceptual maps to increase students' linguistic gain in English	3.714	0.846	High
11	I use conceptual maps to teach grammatical rules to students in English	4.178	0.855	High
12	I prepare conceptual maps that fit the individual differences between students in English	3.535	0.873	High
13	I developed the self-assessment skill of students during the conceptual map activity	3.607	0.846	High
14	I connect the conceptual maps of English with other subjects	3.714	0.953	High
15	I emphasize the continuous use of conceptual maps in learning concepts and words in English	3.500	0.846	High
16	I employ conceptual maps for students to transfer the effect of learning	3.7143	0.829	High
17	I vary in using conceptual maps to help students retain the linguistic concepts of English	3.750	0.879	High
18	I employ conceptual maps to attract students' attention in English	3.750	0.958	High
19	I use diverse conceptual maps in English to improve students' academic level	3.642	0.903	High
20	I emphasize the use of conceptual maps that develop critical and creative thinking skills in students	3.464	1.02	High
21	I emphasize the use of conceptual maps that present information in an organized manner	3.821	0.936	High
22	I prioritize the use of conceptual maps that remove ambiguity in acquiring new skills	4.035	0.830	Very High
	Overall questionnaire	82.321	12.312	High

Table 3 shows that the arithmetic means for the statements range between 3.392 and 4.178, and the degree ranges between medium and high. All statements scored highly except for statement number 3, "I follow and guide students during the concept mapping activity in English," which had an arithmetic mean of (3.40). Statement 8, "I assess students' performance while drawing conceptual maps in English," had an arithmetic mean of (3.392), ranking as the medium. On the other hand, statement number 22, "I prioritize the use of conceptual maps that remove ambiguity in acquiring new skills," was very high. The questionnaire had an arithmetic mean of 82.321 and was rated as high. This indicates that English

language teachers in the Al-Qassim region highly practice the strategy of concept mapping.

The researcher attributes this result to the availability of training programs for teachers on learning strategies suitable for the English language. Additionally, the appropriate school environment for implementing the concept mapping strategy plays a part. When using this strategy, the high educational outcomes observed by the teachers continually encourage students and teachers to utilize it.

To answer the gender-related part of the second research question, the T-test was used to compare the two groups of males and females among English language teachers. The results are illustrated in Table 4.

Table 4: Arithmetic means, standard deviations, and "t" values for differences between the study sample in the degree of practicing the concept mapping strategy in English for the middle stage according to the gender variable

Variables	Arithmetic Mean	Standard Deviation	"t" Value	Significance Level
Practicing Concept Mapping Strategy	Males	82.703	13.430	0.216
	Females	82.000	11.157	

Table 4 shows that the "t" test value for practicing the concept mapping strategy in the English subject at the intermediate stage is 0.216, with a significance level of 0.210. Hence, it can be concluded that "there are no statistically significant differences between the average scores of both male and female English teachers in the intermediate stage in the Al-Qassim region.

The researcher attributes this result to several factors. Firstly, the school environment, academic climate, and training programs focus on training teachers in learning strategies and teaching methods. These resources are available to both genders without any distinction or difference. Additionally, teachers of

both genders receive the same incentives and rewards, encouraging them to diversify their use of appropriate teaching strategies for the presented lesson.

A one-way analysis of variance (one-way ANOVA) was used to examine how the answers of English teachers about how much they used the concept mapping strategy in the intermediate stage varied based on their job rank. The results are presented in the following table to compare the average responses of English teachers in the intermediate stage based on their job rank (practising teacher, advanced teacher, expert teacher) regarding the use of the concept mapping strategy.

Table 5: Mean and standard deviations of English teachers' responses on their practice degree of the concept mapping strategy attributed to the job rank variable

Job Rank	Mean	Standard Deviation
Practicing Teacher	80.250	10.555
Advanced Teacher	87.384	15.430
Expert Teacher	93.500	17.639
Overall	83.508	13.294

In Table 5, you can see that the mean scores and standard deviations of the English teachers' answers to the survey about how much they use the conceptual

mapping strategy at the middle school level were clearly different depending on their job rank in the Al-Qassim region.

To indicate the statistical significance of the differences between the mean scores, a one-way

analysis of variance (one-way ANOVA) was employed, as detailed in Table 6.

Table 6: One-way ANOVA test for the significance of differences between the mean scores of English teachers' responses regarding their practice of the conceptual maps strategy in middle school based on the variation of the job rank in the Al-Qassim region

Survey	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-value	Significance Level
Practice the conceptual maps strategy in middle school	Between Groups	23.658	19	1.245	6.757	0.01
	Within Groups	7.556	41	0.184	-	-
	Total	31.213	60	-	-	-

From Table 6, it is clear that the F-value for the entire survey is 6.757, and its significance level is 0.01. Hence, there are statistically significant differences in using the conceptual maps strategy among middle school English teachers in the Al-Qassim region, favouring those with an expert teacher rank.

The researcher attributes this result to the expertise of English subject teachers, who have accumulated various academic skills, including teaching strategies, teaching aids, and effective communication methods with students. They have also acquired non-academic skills in modern educational technology, quality, academic accreditation, management, planning, and evaluation.

DISCUSSION

The findings of the first research question revealed that English language teachers in the Al-Qassim region employ the concept mapping strategy to a high degree. This finding aligns with a plethora of studies conducted in different contexts. For instance, Fu et al. (2019) conducted a study on Taiwanese EFL students and found that they used the concept mapping strategy to a high degree. Moreover, Lyublinskaya and Du (2022) conducted a qualitative study on pre-service teachers. They found that most of them thoroughly understood the concept mapping strategy and used it frequently in their classrooms. Entwistle (2009) affirmed that concept maps enhance students' understanding of complex concepts. He added that instead of just teaching the complex concept using a concept mapping strategy, a teacher should also teach the students how to develop concept maps

independently. This would lead to higher levels of cognitive and critical skills among students.

The findings of the second research question found that there were no statistically significant differences between the average scores of the male and female groups of English language teachers. However, English language teachers who held the 'expert teacher' rank were found to use the concept mapping strategy more than their counterparts. The previous literature reports mixed findings regarding the usage of concept mapping strategy by male and female participants. For instance, Nur and Jusoh (2022) studied Indonesian high school students. They found that male students outperformed their female counterparts in using concept maps in science classes. Other recent studies did not consider gender while determining the usage of concept mapping strategies in the classroom (Ligita et al., 2022; Al-Dougan, 2020; Rubiyah et al., 2018). The findings related to the second part of the research question fill a significant gap in the body of literature. Limited studies considered the teacher rank in determining the usage of concept mapping strategy. The current study found that English language teachers, both senior and junior, used concept mapping strategies more frequently than relatively junior teachers. This finding could be attributed to the possibility that senior teachers might have realized the importance of concept mapping strategies due to their experience. This finding has implications for junior and novice teachers. The schools in Saudi Arabia should take note of this finding and conduct workshops for junior teachers in which the importance of concept maps is emphasized.

CONCLUSION AND LIMITATIONS

The findings of this study indicated that male and female English language teachers in the Al-Qassim region employ the concept mapping strategy to a high degree. There were no statistically significant differences between the average scores of the male and female groups of English language teachers. However, English language teachers who held the 'expert teacher' rank were found to use the concept mapping strategy more than their counterparts. It can be inferred from these findings that the concept mapping strategy is not novel among Saudi school teachers. They already know the importance of using this crucial strategy in English language instruction. That's why they employed it to a high degree, as suggested by the findings. Moreover, the results imply that junior or novice teachers use the concept maps less than their senior counterparts.

There are a few limitations to the current study that are worth mentioning. Firstly, the current study is limited to only one region of Saudi Arabia (i.e., Al-Qassim). Future studies should focus on conducting research in other regions as well. Moreover, future studies could conduct a comparative analysis among different regions of Saudi Arabia. Secondly, the present study is cross-sectional, as the data was collected once. Future researchers should consider conducting longitudinal studies to understand the trends in the collected data. Lastly, the present research focuses only on the teachers teaching at the intermediate stage. Upcoming studies should include other stages to get a broader view of numerous stages.

Practical implications

The present study's findings have several practical implications for teachers, students, and policymakers in Saudi Arabia. Firstly, the school administration should encourage English teachers to use and apply the conceptual mapping strategy with their students in middle school and motivate students to use it in learning English. Secondly, policymakers should make it mandatory for every school to conduct training courses for English teachers on implementing the conceptual mapping strategy. Thirdly, the administration should maintain continuous and regular follow-up with teachers in implementing modern teaching strategies, such as the conceptual mapping strategy.

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