



Arab Students' Perceptions of Strategies to Reduce Memorization

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Abstract

This paper addresses student perceptions of the effectiveness of strategies that encourage understanding and retention of information, and reduce dependence on memorization. This work is of particular importance in Saudi Arabia where students are taught to memorize information throughout their schooling, beginning in elementary school (Al-Mohanna, 2010; Al-Rashudi, 2002; Rugh, 2002). Inside classrooms that encourage memorization, the teacher's role is quite clear: the teacher dominates, decides what students should learn and is seen as the only source of information. There is no attempt made to engage the student in any interaction with the teacher or other students. To reduce dependence on memorization, students need to actively engage with the material, reflect on it and finally retain the material because it is understood. To achieve this with university students, it has been suggested that teachers should not depend solely on the lecture as the method of instruction (Luckey [in Fasko, 2003]; Underwood & Wald, 1995). Having students read before class, respond to and use effective questioning, and work in groups, helps facilitate student comprehension. These strategies were among the ones used in the classes under study. Research was done in the female section of the English Department at a University in Riyadh, Saudi Arabia. One hundred fifty-six students were involved in the project in classes conducted over two semesters. Student

perceptions of the effectiveness of strategies are based on an analysis of questionnaire responses and student comments. The paper also addresses the study implications.

Key words: memorization, student interaction, student perceptions, Saudi students

Arab Students' Perceptions of Strategies to Reduce Memorization

This paper addresses student perceptions of the effectiveness of strategies used by this researcher to encourage the understanding and retention of information, and to help overcome the habit of memorization. Anecdotal evidence provided to this researcher by female students at a university in Saudi Arabia suggests that throughout their school experience – at all levels – students are expected to memorize material word-for-word and are often penalized if this is not done perfectly. By the time they enter university, memorization is a well-entrenched way of learning for Saudi students and is clearly a strategy that they commonly use. The anecdotal evidence is supported by research that shows evidence of systematic use of rote memorization as a learning strategy by students throughout the educational system in Saudi Arabia (Al-Mohanna, 2010; Al-Rashudi, 2002; Rugh, 2002). While other teaching and learning strategies have been used in this region in the past, memorization continues to be the leading strategy used in many educational institutions (Al-Rajhi, 2006; Smith, 2004).

This style of teaching is reflected in Middle Eastern universities both past and present. Qubain gave a very accurate description of how this type of teaching was reflected in an Arab university in the 1960s.

As in most Arab countries, the methods of instruction leave something to be desired. The instructor usually delivers a lecture to a large number of students. Class discussion and quiz sections are the exception rather than the rule. The student relies heavily on passive memorization of textbooks and lecture notes. ... Contact between the student and the teacher is limited,

... . Success or failure depends almost entirely on a final examination at the end of the year. ... the last month before the final examination is usually a period of intense activity on the part of the students, during which they try to memorize as much of the textbook as possible. (Qubain, 1996, pp. 239-240)

In Saudi Arabia, the legacy of memorization can be traced back to the early Islamic schools that existed as early as the 7th century. These early schools were developed strictly for the memorization of the Quran and other holy Islamic texts, and memorization of the Quran remains an important part of education in Saudi Arabia. When the Saudi public school system was created, the strategy of memorization was transferred to all content (Rugh, 2002).

The use of memorization as a teaching and learning tool has been observed in Saudi society in recent years. In his study, Al-Mohanna (2010) showed that students learning English in secondary schools in Saudi Arabia were mainly exposed to the Grammar Translation Method and the Audiolingual Method. Both of these methods focus on memorization and repetition, which helps explain the students' dependence on memorization once they get to the University level. The study shows as well, that most of the teaching was teacher-centered and students were given little or no opportunity to communicate. Other researchers also point out that students in Saudi Arabia are not given enough opportunities to develop problem-solving skills, communicative skills and to use their creativity (AlMunajjed, 2010; Rugh, 2002)

The Al-Mohanna (2010) study also looked at the background of teachers to see if they had been exposed to communicative ways of learning. He found that in teacher education colleges, future teachers were given only four courses directly related to teaching methodology. He mentions that new teachers are likely to teach in the same way that they were taught. Given the fact that teachers are not given the opportunities to be exposed to new ways of teaching, makes it even more likely that their teaching focus would be on memorization. Despite the many methods of transmitting information, the lecture format continues to be the dominant mode in Arab educational settings. Students still memorize textbooks, which for them hold indisputable facts, which they are rarely called on to analyze or critique in any way (Al-Rajhi, 2006; Farjani, 2003).

This kind of teaching leads to what has been referred to as a 'deadening' of the mind where creativity and innovation are stifled (Leonard, 2003). This is of particular concern to educators and other observers in the Middle East who realize that the demands of the technological age require students to think and problem-solve, and rote memorization does not allow for the development of such skills (Smith, 2004). Students in the region who are a product of the current system are seen as good at following instructions but not good at creative thinking. Therefore, they are viewed as unable to contribute to the innovation needed to move their countries forward in the 21st century (Theil, 2007). In light of this, it has been suggested by researchers and policy makers that countries in the Middle East needed to revamp their educational systems with an eye on developing in students these important skills that will allow them to function in a global economy (Bersamina, 2009; Harnish, 2003; International Bank for the Reconstruction and Development/World Bank, 2007; Rugh, 2002).

Theories that run counter to memorization are mainly communicative methods and stress the need for students to actively engage with the material, to reflect on the material and finally to retain the material because it is understood, not merely memorized. Studies have shown that with this kind of understanding material learned is retained, i.e., it becomes accessible when needed (Brown, 2000; Gattegno, 1976).

Luckey (in Fasko, 2003) notes that at the university level, teachers need to change their teaching methods so that they do not depend solely on the lecture as the method of instruction. Teachers should also learn how to shift their objectives and change the way they teach, abandoning the strategies that they themselves learned – stop teaching how they were taught (Al-Rajhi, 2006). As some pioneering educators have advocated, the teacher should use teaching techniques and strategies that create real learning situations – those that leave students with the time and space for actual learning to take place. In these classrooms, there should be less teacher talk and more student talk; students should be provided with opportunities to learn in ways that are useful to them, and the teacher should act as a facilitator (Gattegno, 1976; Stevick, 1976).

Unsolicited feedback from students as well as this researcher's observations suggested that strategies being used in her classes, although initially unfamiliar to students, were helpful to students. This researcher, therefore, wanted to have a more accurate and systematic picture of the effects of the strategies by doing this study. The strategies used were: reading material before class, the use of open-ended questions and group activities.

Work in this area is of particular importance in Saudi Arabia and other countries in the Middle East, since universities and other educational institutions are being asked to move away from the use of memorization, and to encourage more student interaction (Bersamina, 2009; Harnish, 2003; Rugh, 2002). As efforts are being made to improve the way that students are taught, it is important to identify strategies that are effective in helping students engage with material and retain what they have learned.

The study is also relevant since many university departments (such as Medicine and Business) in the region are following the trend of teaching content in English, and it is critical that this content be understood by the students (Bersamina, 2009). Instructors teaching content courses in English need to have some idea of what strategies are likely to work with their students.

Finally, research shows that instructors are better able to make improvements in course delivery when they understand how students view their learning situation and the teaching strategies used. By looking at student feedback, instructors can determine the effectiveness of activities and ensure that students have a positive learning experience. Research shows that if students perceive strategies as helpful, they are usually more receptive to them and this will enhance the learning process (John, 2003; Lasagabaster & Sierra, 2009; Lizzio, Wilson & Simons, 2002).

Classroom Strategies Used in Study

An important focus in the classes was to help students understand and retain information throughout the semester – in stark contrast to what is expected when students memorize information. As researchers have suggested, use of the lecture is conducive to memorization, so this strategy was avoided in these classes (Luckey [in Fasko, 2003]; Underwood & Wald, 1995).

Reading before coming to class

An important requirement continually stressed to students throughout the semester was that they read the material before coming to class. At the beginning of the semester, students were told that for the class to be effective, they must do their part, and that activities in the class would be based on the assumption that they had read the material. As such, regular class activities involved indentifying and clarifying important information and concepts and making sure they were understood, as well as reviewing and working with material in various ways to aid in student retention.

Research suggests that reading before coming to class gives students the opportunity to become familiar with content and facilitates comprehension of material. This in turn facilitates student participation in class and encourages meaningful discussions. Efforts to get students to do pre-class reading can be found across disciplines and researchers have used a variety of approaches to accomplish this (Bruff, 2009; Felder & Brent 1996; Henderson & Rosenthal 1996; Underwood and Wald, 1995). When students come to class familiar with content, it gives the instructor the opportunity to identify what students do not understand and to focus on clarifying those points. The instructor is better able to create interactive opportunities for students once they are familiar with the content (Boelkins & Ratcliff, 2000; Freeman, Mc-Grath-Champ, Clark, & Taylor, 2006; Lei, Rhinehart, Howard, & Cho, 2010).

Using questioning

Given the basic agreement that the traditional way of covering material with unchallenging questions needs to be replaced with questions that stimulate student interest and reflection, students were often asked referential questions in the class under study (Luckey [in Fasko, 2003]). Research shows that referential questions help students to interact in class and that they promote comprehension of material. This is especially important in content-based classes where students are expected not only to handle content, but to do so in a language that is not their first language. Referential questions include open-ended questions of the type that were used in this research (Brown, 2000; Shermis, 1999). This type of questioning also allows students to be creative and be less fearful of giving the “wrong” answer (Potts, 1994; Strohm & Baukus, 1995).

Students were often asked questions requiring them to give an opinion of a topic under study and were expected to provide responses supported by relevant course content. This would provide the instructor with insights into how well students comprehended the material being covered and enable her to provide feedback to the students. Students were also encouraged to ask their own questions of each other. This often led to class discussion, which played an important role in the class, providing students with opportunities to express their ideas regularly on the topics being discussed.

In addition, students were asked questions requiring them to explain some aspect of what was being worked on in class. This encouraged students to give information in their own words, at their own level of understanding. This again allowed the instructor to see how much students understood and also allowed her to identify errors. Errors in understanding were corrected by other students whenever possible and by the teacher when necessary. It was also noted by Carr (1990) and Potts (1994) that helping students to classify and categorize information, and to find analogies and other relationships, promoted critical thinking and retrieval of new information. In that vein, questions were asked requiring students to make comparisons and contrasts and to recognize similarities and differences among the methods being studied in class.

In general, questions required students to reflect and process information and to show understanding of the material. Questioning played an important role in the class, giving students the opportunity to present their opinions and establishing the idea that their thoughts were relevant. They were not required only to know about the subject matter, but encouraged to reflect on it and make their own meaning.

Working in Groups

To discourage dependence on the instructor and promote student comprehension and retention of material, group work was done on a regular basis throughout the course. With this strategy, student learning is active rather than passive and is enhanced when students work together to help each other solve problems and challenges that arise in class. Group work has been shown to help students to communicate with each other and also gives them the opportunity to process material, which has been shown to lead to retention of material (Brown, 2000; Cooper, 1995; Gattegno, 1976). Slavin (1983) reports that group work can be viewed in different ways: cooperative behavior, e.g., working in pairs or groups; cooperative incentive structure where pairs or groups are rewarded based on group performance; cooperative task structure where pairs or groups must work together and may or may not be rewarded.

Throughout the semester, students were asked to work in pairs or small groups on different assignments. Students were sometimes allowed to spontaneously form groups of three to six students and allowed to work through the material in the text. On some group

assignments, they were asked to identify specific information in the text while on other assignments, students were asked to answer specific questions or respond to a specific activity. At other times, they were given a problem related to the lessons and asked to solve it through discussion. Students would then form larger groups to discuss their findings together before moving on to a large group/class discussion. These activities would fall in the category of cooperative task structure as no grades were assigned and they were done in order to help students to work on material together and help them understand it.

Students also worked in groups that were assigned by the instructor. Groups of five or six were created to complete a final group project where they were tasked with applying the techniques learned in one of the methods by teaching a group of classmates. The project was a practical way of incorporating ideas that were covered throughout the semester and provided deeper understanding of the concepts covered in class. This falls in the category of cooperative incentive structure as in this instance, students were given an incentive, i.e., a group grade, for the completed assignment. In order to aid student understanding and retention, the instructor provided as many possibilities for students to be engaged with the material without unnecessary instructor involvement.

Overview of Study

The classes under study took place over the course of two semesters with four different classes. Two sections (C1, C2) were taught in the first semester (S1); two sections (C3, C4) were also taught in the second semester (S2). The same material was covered in each class in a similar manner; the teaching strategies implemented were based on strategies that had been recommended in the literature and that had been deemed effective in past semesters.

In this context, the author made a distinction to students between 'memorization' and 'retention.' Memorized material was explained as material stored (usually for the short term) with no connection to any previous concepts and no expectation that students would make any connections to new situations related to what was memorized. Retained material on the other hand, was explained as material that was understood so that it can be retrieved over the long term, it would be connected to previous knowledge and students would be expected to make connections with the material learned.

Students were given a questionnaire to fill out at the end of each semester with questions related to class activities and their experiences. The focus was on their perceptions of whether the strategies prompted them to memorize or understand and retain material. To ensure that some qualitative data could be collected, there was a section at the end of the questionnaire for students to add their own comments reflecting their attitudes towards the class. In addition, at the end of each semester, each class was asked as a group to give feedback on the course, and their answers were documented. The

analysis of the questionnaires, the answers from the 'comment' section, and the information garnered through large group feedback form the basis of the findings of this paper. A total of 156 questionnaires were completed: 44 each from C1, C2; 39 from C3 and 29 from C4.

Participants

The participants in the study attend KSU Women's Campus and were enrolled in their third year of study. They were enrolled in the English Language and Literature program at the University and were taking the Techniques in Language Teaching course. The text used was *Techniques and principles in language teaching* (2nd ed.) by Dianne Larsen-Freeman (2000). This is a content-based course designed to give the students the opportunity to study several language teaching methods.

The Questionnaire

There were a total of 31 questions on the questionnaire. However, only the questions relevant to this study will be discussed in this paper. Questions 1- 8, 26 and 27 related to student's attitudes towards memorization and retention. For these questions, students were given the options of answering with the following responses: A = Agree or D = Disagree. Questions 9-25 related to student participation in class, the perceived effectiveness of classroom strategies and whether strategies encouraged them to memorize or understand and retain information. For these questions, students were given statements and asked to answer using the following five possible responses: A = Always, O = Often, S = Sometimes, N = Never and N/O = No Opinion. Questions 28-31 related to an online discussion group that some of the students participated in. The questionnaire was designed to get student perceptions of the effectiveness of the major teaching strategies used in the classes.

Method

A basic pen and paper method was used by students to complete the questionnaires. Students were given the option of remaining anonymous. Questionnaire results are total percentages for all classes combined. Where relevant, semester or individual class information is given. It is important to note that comments taken from the "comment" section of the questionnaire are transcribed as written by the students, including any words underlined as well as any spelling or grammatical errors.

Findings

Reading before coming to class

When asked if reading before coming to class was helpful, the student responses were:

Always: 67%

Often: 11%

Sometimes: 15%

Never: 3%

The percentages are similar across classes. Although this seemed to be appreciated by most students, comments showed that some students wanted and expected the instructor to review the material first, so that those who had not read would be able to participate. Both those students who were prepared and those who were not expressed frustration.

One C3 student expressed frustration about the fact that some students did not read before coming to class:

Some classes were really frustrating because most of the girls don't read before coming to class, then they begin every answer with "I think ...". It was really annoying because they were supposed to "know" and not make guesses. The other problem was each of those girls would rephrase what another has said and saves herself by saying "I agree..." or just rephrasing the same idea. They should have paid more attention to what is going on. (Student comment)

Reflecting the sentiments of a couple of other students from other classes, this C4 student wanted the teacher to introduce new material. She also explained why students sometimes did not read before coming to class:

I prefer for the new information in any lesson to be introduced through the teacher or presentations rather than reading about it before, it helps me think more. Many of us didn't read the lesson before, either because we didn't have time or we forgot, and so we miss out all the information and cannot participate, nor understand what being said in class, we should study together first. (Student comment)

Questions

When asked if teacher questions helped them understand and retain information, student responses were:

Always/Often: 81%

Sometimes: 16%

Never: 2%

Students, however, were not always happy with the fact that the instructor did not answer her own questions. Students often expected a "right" answer, even when the answer required was an opinion. One student from C1 expressed some concern about not always being given the answers by the teacher. She also reflected in her comment the notion that this way of working was not familiar to the students.

I know Dr. [X] that you can't be the way the majority of us want you to be. But It would be helpful if you become between, I mean helping us to understand and

retain material the way you did and at the same time try to answer student's questions during the class, specially if the students are new and at the beginning of the term till they are use to your way. As you know it is new for almost every body. Thank you for everything. (Student comment)

Another student from C2 echoed the desire to have the correct answer:

I wish if you give us the right answer in the class. because sometime girls answers more than one answer and I mixed up wich one is the right one. and in the exam I maybe confused. Thanks a lot. (Student comment)

When asked if the kinds of questions the teacher asked in class required them to memorize information, the student responses were:

Always/Often: 32% Sometimes: 41% Never: 26%

When asked if the kinds of questions the teacher asked in class required them to understand and retain information, the student responses were:

Always/Often: 84% Sometimes: 14%

There seems to be an overlap in the percentage of students who felt that teacher questions require them to memorize information and those that feel that they require them to understand and retain information. The following C2 student comment seemed to reflect the need to both understand and memorize information: "Honestly, this improved me in different ways. It was not an easy course, it was so hard, because it needs a lot of understanding and a lot of memorization."

When asked if they asked questions in class, the student responses were:

Always/Often: 40% Sometimes: 32% Never: 23%

When asked if they answered questions in class, the student responses were:

Always/Often: 49% Sometimes: 36% Never: 14%

While a larger percentage of students indicated that they answered questions than asked, the responses show that a large percentage of students perceived themselves as participating in class.

Interestingly enough, in class C3, 28% said they never asked questions in class, 49% said sometimes and only 21% often or always. For that group 18% indicated they never answered questions in class; 44% sometimes and 35% often or always. It seems that a smaller percentage of students in this class perceived themselves as participating compared to the percentage of students in the other three classes. The other three classes had numbers that were more similar to each other.

One C2 student expressed her appreciation of being afforded the opportunity to participate in class:

The class is interesting and the way that you use to teach us this course is helpful and benefit because you make us understand the method by you encourage us to participate. I think participation and discussion in this course makes us inter in the mode of this subject becuse it needs this way of teaching. (Student comment)

When asked if other students' questions helped them to understand and retain information, the student responses were:

Always/Often: 52% Sometimes: 39% Never: 7%

It appears that questions asked by both teacher and students helped the students.

Using own words

When asked if using their own words to explain information helped them to understand and retain information, the student responses were:

Always: 81% Often: 12% Sometimes: 6%

These results show students perceived using their own words as a helpful strategy. One student from C2 reflected thoughts expressed by a C1 student; both liked the fact that they were able to give responses in their own words.

The most think I like it in the class was the discussion the teacher accept any opinion if it was well-evident and in the observations you never asked us to write or memorize what in the book only but also anything relate to the principle. That makes us feel comfortable really Thank you Dr. (Student comment)

Still, there were other students who were more comfortable memorizing information and recording answers exactly as they were found in the text. A C1 student expressed this opinion:

I would prefere if you accept the answers or our examples we solve in the exam as they are written in the book .. cause, for me I feel a little bit confuse .. while I'm writing my answers so, I don't have time to create examples .. (Student comment)

Contrasts

When asked if they were able to recognize similarity and differences between methods studied, the student responses were:

Always/Often: 83% Sometimes: 17%

When asked if they were able to make comparisons and contrasts among the methods studied, the student responses were:

Always/Often: 71% Sometimes: 26% Never: 2%

Reflecting this finding was this C3 student who said: "You helped us to understand the method and compare between them even with their details without memorization. So, Thank you for that."

This C2 student however noted the difficulty she had in differentiating between methods, echoing the sentiments of a C3 student: "At first, I thought this course so difficult but when I understood the methods, I really really enjoy it. Even if the methods look the same and I have a little problem to diffrentate between."

Groups

When asked if working in groups helped them to understand and retain information, the student responses were:

Always/Often: 63% Sometimes: 25% Never: 10%

When asked if planning and preparing to demonstrate a method (in groups) helped them to understand and retain information, the student responses were:

Always: 61% Often: 24% Sometimes: 12%

When asked if working in groups helped them to understand and retain information, the student responses were:

Always/Often: 63% Sometimes: 25% Never: 10%

When asked if planning and preparing to demonstrate a method (in groups) helped them to understand and retain information, the student responses were:

Always: 61% Often: 24% Sometimes: 12%

A C4 student reflected the view that group work was helpful:

You helped us to understand the class more when you make a particular group practice the methods that we took in the class, and give your comments to correct some mistakes, this help us to understand the method more. (Student comment)

Another C4 student however preferred the traditional method of being assessed: "I did not like the way of groups working, I think if it was tests or quizzes it will be much better and helpfuL."

Memorization

When asked the degree to which they were encouraged to memorize information in class, the student responses were:

Always/Often: 25%
25%

Sometimes: 48%

Never:

When asked the degree to which they were encouraged to understand and retain information in class, the student responses were:

Always: 59%

Often: 17%

Sometimes: 22%

Overall, students felt that the classes encouraged them to understand and retain information to some degree and one quarter of them felt that they were never encouraged to memorize information. The classes seemed to attain the objective of decreasing the likelihood of memorization.

The following response written in the “comment” section of the questionnaire reflects the thoughts of a C2 student who felt that she was encouraged to understand information.

This is the first class that I feel confidence, happy and comfortable. The teacher helped us to understand the lessons without need for memorization, I feel that the informations that I get from this class would help me and I feel I couldn't forget because I understand not memorize them. (Student comment)

A C1 student had this to say: “That we have to answer according to our understanding, and to write down on exams our words from understanding not that we have to memorize every word and write it down.”

Benefits of class

There were students, however, who found that many of the strategies used helped them overall. Some of them summarized their feelings in the ‘comment’ section of the questionnaire. One student from C3 had this to say:

Giving the student the chance to express their own ideas, was really helpful for me.

Also, asking students to read the lesson before coming to class helped a lot in retaining the informations.

Working in groups was helpful, to provide more understanding. For me, hearing the meaning of a student like me is more helpful for me to get it.

Because it is sometimes less profiecinial “easy to understand” (Student comment)

Another student from C3 explained the benefit she gained from the class in this way:

At the beginning of the course, I thought of it as unusual, strang class because we never tried to figur out or think in class's we had befor . But when I had my First exam, I found that a lot oF information or let me say all information were clear and I connected to all what was said, done in class with the information I had. Really the way you [our teacher] used was a great way that for the first time truly in my life I felt that I was learning not Forced to learn. (Student comment)

Another C3 student expressed the sentiment that she learned provided benefits not only in the class but outside of the class as well.

It was an interesting course and it helped me alot and let me feel that I am not studying rather than getting information that would helps me in many aspects in my life not only in learning... (Student comment)

Summary

The author used strategies to counter the student habit of memorizing material and promote understanding and retention throughout the semester. All the activities that were done in class were done with this in mind. Therefore, the focus was on encouraging students to read the material on their own, ensuring the material was understood and having students demonstrate understanding throughout the course. Ongoing checks for comprehension were done through question and answer, group work, discussions, etc. Students were encouraged draw their own conclusions about the material, based on their understanding, and they were expected to be able to defend their choices. A bi-product of using the strategies is that students exhibited critical thinking skills and were able to make links and connections among the methods. These are all skills needed to function in the 21st century.

More than one third of the students responded that reading before coming to class was helpful. However, written responses showed that there was some frustration since students did not always actually do the assigned reading and so were not always prepared for class discussions. Some students felt that it would be better for the instructor to explain the material in class instead of (or before) launching into a discussion; others felt frustrated that they were prepared while others were not.

More than three quarters of students indicated that teacher questions always or often required them to understand and retain information while close to one third said that those questions often or always required them to memorize information. Some students noted that they were not familiar with being in a class where they did not always have to depend on the teacher to provide answers to questions asked.

A majority of students indicated that they asked questions in class. The responses also showed that a large percentage of students perceived themselves as participating in class; some students expressed appreciation for the opportunity to participate. A majority of students also indicated that student questions were helpful. A majority also felt that they were able to make comparisons and contrasts among the methods studied. Working in groups was also perceived as helping students.

More than three quarters of the respondents indicated that they were always or often encouraged to understand and retain information in classes while a little over one third indicated that they were always or often encouraged to memorize. Written responses showed that some students appreciated the fact that they were encouraged to understand the information and were able to express their own ideas in their own words. There were some, however, who still felt the need to memorize information.

Implications

This paper reviewed educational strategies chosen to discourage the use of memorization, and described how the strategies were implemented in a classroom setting with female students in the English Department at a university in Saud Arabia. It also presented student perceptions of those strategies as well as implications of the research to date. The study is particularly relevant to the region since many universities are beginning to teach content in English and students tend to overuse memorization as a learning tool.

An important aspect of working with students to overcome the habit of memorization is to make explicit the difference between memorization and retention. Doing so will allow them to become aware of what they are doing and encourage them to make their own decisions about what works best for them. Although memorization is such a well-entrenched habit with these students, and getting them to change their habits is not an easy task, it is important to note that it is well worth the effort. Generally speaking, student responses reflected that the strategies used helped them to understand and retain material.

Teachers who wish to follow the strategies used in this study should know that requiring students to read before coming to class is one way of getting students to shoulder some responsibility and become more actively involved in the learning process. Most students will not be familiar with this requirement and it may take some time for them to take it seriously and to begin coming to class prepared. Others will always want the instructor to provide all the information. However, the research shows that with patience and persistence, students do become involved.

Students should also be encouraged to actively participate in class. This can be done through the use of questioning and through group work. Students who are used to memorizing information are often used to sitting and passively receiving information. They are also used to being asked rhetorical questions or questions that the instructor answers. It takes time, therefore, for students to get used to asking and answering questions. Getting students to participate in pair work and group work is usually less challenging than getting them to participate as a large group.

Instructors should work in such a way that the focus is on the students and not so much on the instructor. Students should be allowed to discover the answers to questions instead of always being given the answers. They should be allowed reflection time so that they can come up with their own answers.

This study shows that the strategies used are perceived by a majority of students as being effective in helping them to understand and retain information. The issue of memorization has been a great stumbling block to thinking and reflection in the classroom it is hoped that these strategies will contribute to efforts to help students overcome this habit. As educators we can help students coming from this background learn not to be just passive receivers of information, but rather intelligent thinkers with the ability to understand and retain information provided to them.

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