

The Effects of Using the Mad Minute Strategy in Teaching English among Female Students in Some Saudi High Schools

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Abstract—This study aims to investigate the effectiveness of using "The Mad Minute" as an intervention strategy to improve students' level of English. Moreover it seeks to discover learners and teacher's perceptions of the efficacy of The Mad Minute intervention in terms of its efficacy in developing students' performance in English. The sample consisted of 100 female students from two public high schools and their 4 teachers who were asked to complete two questionnaires relating to how useful and effective the learners and teachers found The Mad Minute intervention for enhancing the students' learning skills. The findings showed that the students in both schools reported that the intervention enhanced their subjective ability to learn new English language skills. Further, the study sheds light on the learning processes involved in the "The Mad Minute" intervention and how it benefits students to improve their level of achievement in English. Moreover, the analysis of test scores reveals significant learner development at the level of ($\alpha = 0.05$) between the pre-test and the post-test in the total score in the favour of the post-test scores indicating the effectiveness of using The Mad Minute strategy. Recommendations have been given at the end of the article.

Index Terms—mad minute strategy, effective teaching, teaching strategies, academic achievement development

I. INTRODUCTION

As a response to recent developments in scientific, economic, and social aspects of life as well as the Internet-based communication revolution resulting from knowledge development and globalization, it is necessary to prepare today's English language students to overcome the challenges posed by these modernized teaching and learning methods. Furthermore, we cannot prepare English language students for the present and future demands that our technologically-based world places upon their English language skills by merely relying on traditional, teacher-centered pedagogical approaches. Because our current era has engendered a new sense of openness between individuals and communities via the medium of online communication, this requires a new set of approaches to language learning that embrace data and information and invest in solving our shared problems and developing student's critical thinking and their capacity for innovation and creativity. However, we cannot hope to achieve this aim without guiding students to develop their capacity to process information rapidly and respond with relevant answers in relation to solutions for overcoming everyday problems (Adaoud, 2004).

Moreover, the careful selection of effective methods to support this aim is not only key to improving student's English language level but also helpful in the future practice of education. So, teachers have to focus on providing students with suitable training on different styles including time management tips that allow students to recognize the importance of time and then help them better manage their time. Recently, researchers have examined the effects of time management on students' success in all areas of their personal, familial, career, social and cultural life.

Although there are a lot of strategies directed at developing students' achievement in learning English, "The Mad Minute" strategy is one of the newest ways of brainstorming that has not previously been tested in the field of English language teaching. According to Holmes (2014), the concept of "The Mad Minute" was introduced by the British Army, as a bolt-rifle speed shooting exercise before World War I. Soldiers had to fire 15 rounds at a target 300 yards distant using the Lee–Enfield service rifle. Most of them could do rather better than that, and some could fire almost 30 rounds a minute with little loss of accuracy (Holmes, 2014).

More recently, the concept of "The Mad Minute" has been used in teaching, primarily as a strategic activity in Mathematics. Pham (2018) explains this strategy:

Mad Minute is a fast-paced math fact practice strategy that our class does every day. My students get one minute to finish as many problems as they can, working towards getting the highest number of consecutive problems correct. As my students work on Mad Minute more and more, they improve their accuracy and speed (Pham, n.d.).

In addition, The Mad Minute strategy has begun to be applied in teaching many other subjects including English. This method of teaching involves an interaction between the teacher and the learner or among the learners themselves. Teachers choose a certain activity or exercise in class and ask their students to complete it individually or in groups in only one minute. Sometimes teachers give their students more than one minute, depending on how difficult the given

exercise is (i.e. two or five minutes but not more than ten minutes in order to make it more effective). This helps them work under pressure and helps them consider the importance of time. English teachers can apply this strategy to teaching grammar, vocabulary, reading, writing, listening, and speaking skills. When teachers use The Mad Minute strategy, they focus on improving their student's language abilities rather than their overall score, and so teachers use it as a means to promote learners' English ability.

The Study Problem

This study responds to international trends in developing new teaching methods as a means of promoting learners' ability to help them cope with international changes and the growing communication and interaction brought by the globalized use of English. A variety of student-centred teaching methods can encourage effective social interaction, self-learning, develop creative problem-solving skills, as well as balance student's personalities. Such activities relate to the changing role of teachers that has evolved to allow them to become facilitators and trainers rather than instructors. This requires them to explore new teaching methods such as The Mad Minute strategy and other strategies that can develop learning skills among students.

As a result, this study seeks to explore the effectiveness of using The Mad Minute strategy in teaching English in terms of improving students' achievement in English. Subsequently, the aim of this project is to determine whether high school students prefer being taught using The Mad Minute method. More specifically, this paper focuses on students and teachers' attitudes toward using this strategy in teaching and learning English. Subsequently, the current study seeks to answer the following questions:

1. What are the advantages, if any, of using The Mad Minute strategy in teaching English?
2. What are the drawbacks, if any, of using this method in teaching English?
3. What are the teachers' attitudes towards using this method in the classroom?
4. What are the students' attitudes towards using this method in the classroom?
5. Does this method improve the students' level in English?

II. LITERATURE REVIEW

A search of the relevant literature did not find any studies that relate to the Mad Minute strategy specifically in the context of teaching in ESL contexts. Furthermore, no significant data were found regarding teachers' perceptions of this strategy's effects on students. However, in order to overcome these limitations, the researcher compiled data from the literature that related to the nature and quality of the Mad Minute approach by identifying the following four areas: (a) teaching English as a foreign language, (b) the importance of using effective teaching strategies, (c) setting short time limits on teaching, (d) and the attitudes of teachers and students. Therefore, the following literature review was developed around these four topics:

Teaching English as A Foreign Language

Teaching English as a Foreign Language (TEFL) refers to teaching English to students with different first languages. TEFL is taught either within the public-school system or privately, at a language school or with a tutor. TEFL can also take place in an English-speaking country for students who have travelled there either temporarily for study or work, or permanently. TEFL teachers may be native or non-native speakers of English. Other acronyms for TEFL are (TESL) Teaching English as a Second Language, (TESOL) Teaching English to Speakers of Other Languages, and (ESL) English as a second language; a term typically used in English-speaking countries, and often refers to learning more than teaching (Broughton, Brumfit, Pincas & Wilde, 2002).

One of the consistent themes that has developed in ESL over the past twenty years is the importance of integrating second-language instruction meaningfully within the entire curriculum as a means of both increasing the efficacy of the language instruction, and improving second-language learners' chances and opportunities for academic success and positive educational outcomes.

Importance of Using Effective Teaching Strategies

Here, it is necessary to clarify exactly what is meant by teaching strategies. Armstrong (2013) defines teaching strategies as methods used to help students learn the desired course contents and develop achievable goals in the future. Teaching strategies identify the different available learning methods to enable students to develop effective learning strategies specific to the student's requirements. Assessment of student's learning capabilities provides a key pillar in the development of a successful teaching strategy. The work of O'Malley and Chamot (1990) and others emphasized the importance of style awareness and strategy development in ensuring mastery in English language teaching. Thus, many textbooks and articles offer guidelines for constructing strategy-building activities (Armstrong, 2013).

Setting Short Time Limits on Teaching

Although a few studies have been conducted to investigate the impact of using short time limits in teaching English, a considerable amount of literature has been published in the field of teaching mathematics. These studies clarified that setting short time limits in teaching has revealed both positive and/or negative effects. For example, a study conducted by Boaler (2014) concluded that imposing time limits in math tests may serve to demotivate students resulting in 'math anxiety' and causing students to fear studying math in the long term. Further, he posits that imposing timed tests may cause a reduction in student's deep learning by interfering with their cognitive abilities (Boaler, 2014).

In contrast to Boaler, Terada (2017) points out that teachers are required to impose timed tests on their students due to the quality of accepted exam procedures. She posits that children take as many as 20 standardized tests each year, and timed testing follows students through college entrance exams and into their careers. She also cites a number of areas that require timed tests such as certifications for teachers, electricians, and medical laboratory technicians. However, she also provides significant, useful tips for tackling timed tests and math anxiety and how they can help make the stress more manageable for students. She suggests experienced teachers have to offer a variety of strategies:

Many educators use simple games to liven up practice sessions recasting timed testing as an engaging race against the clock. If that seems like a fairly obvious approach, an important nuance emerged during the discussion: Most teachers who gamified their timed tests chose not to grade them, or graded them only for accuracy and not completion. For younger children especially, this simple approach gives them the space to build skills and confidence before they confront actual timed tests. Teachers also have to focus on moving an individual child forward and de-emphasize ranking the performance among peers or against a fixed time limit. (Terada, 2017, n.p.)

Similarly, in the following excerpt, other findings support the use of timed periods in teaching and learning processes:

More than anything else, short time limits encourage discussion and the development of fluency. Too often, students will hesitate to participate because they are over-thinking what needs to be done. But by setting a scary short time limit, students will have to kick their brains into gear quickly and throw out whatever comes to mind (Appointment plus, 2015, n.p.).

Also, while setting short time limits for students can increase their sense of fun and add diversity to class activities, teachers should not overuse this approach because they may not be appropriate to different lesson content or student's individual learning styles. However, while using short time limits can be useful in developing students' productive skills such as speaking in terms of requiring them to give their views or agree or disagree with others, as well as describing narratives, short time limits also encourage students to rapidly understand a new text or identify new vocabulary. In addition, the sense of achievement students gains from rising to the challenge presented by working to short time limits is also effective at promoting confidence and motivation and can be used with students at all levels. For example, short time limits can be used to help students practice their spoken skills (e.g. forming questions and giving answers and personal views, expressing agreement and disagreement, engaging in speculation, and relating a narrative. Setting short time limits attracts student's attention and engages them in the learning process; two key areas that are essential for effective learning because the brain is hard-wired to solve challenges in a limited timeframe and successfully solving such challenges increases self-confidence. Provided that short time limits are used carefully, students are likely to thrive on the challenge and exceed their own expectations of how much they can achieve in a short timeframe. Finally, using such time limits tends to promote lively discussion among students with everyone interacting cohesively to solve the challenge at hand (Tankard, 2018).

Students' and Teachers' Perspective

Perception is defined as "the process by which people select, organize, interpret, retrieve and respond to the information from the world around them" (Schermerhorn, Hunt, & Osborn, 2003, p.2). Alhojailan (2015) stated that it is important to explore students' perceptions because perceptions are created based on students' knowledge and backgrounds. Therefore, perception is of primary importance and has a great influence on shaping what comes after (Alhojailan, 2015).

A. *Students' perspective.* While much has been said about the impact of selecting an effective strategy to improve students' performance, we still have a lot to learn about how perceptions of new teaching methods are changing over time. It is important to note that students remain at the centre of the learning process. Their perceptions are important indicators of the effectiveness of a particular strategy, as many studies rely on students' perceptions as an indicator of the effectiveness of a selective teaching strategy.

Felder and Silverman (1988) explored the perceptions of the students in their study and found that individuals differ from one another in the way they prefer to receive and process information. They also found a relationship between individuals' preferences receiving information and their methods of communicating information. The results showed that most participants preferred to receive information visually and engaged in drawing very little during the design exercise.

B. *Teachers' perspective.* Karabenick and Noda surveyed 729 teachers and examined the differences between teachers who have positive attitudes and those with less than positive attitudes toward ELLs:

Teachers more accepting of ELLs in their classes were more likely to believe that an ELL's first language proficiency promotes school performance and does not impede learning a second language; bilingualism and bilingual education are beneficial; ELLs should be tested in their first language; lack of fluency in the second language does not imply lack of comprehension; and ELLs do not consume additional teacher time or district resources. Results also showed that teachers with more favourable attitudes toward ELLs tended to take mastery versus a performance (or competitive) approach to instruction, and had a higher self-efficacy for teaching ELLs. (Karabenick & Noda, 2004, p. 56)

The authors also stated that the findings of their study suggest a need for professional development. Clearly, attitudes have changed to some degree and they are continuing to change.

From the above, we can see that no previous study has explicitly investigated the effectiveness of using The Mad Minute strategy in teaching English in high schools. Moreover, no one has yet tackled the perceptions of secondary school students and English language teachers toward using this strategy in teaching English in high schools. Therefore, this study intends to fill this knowledge gap.

III. METHOD

The present study concerns those who are interested in the educational process, especially in the field of ESL teaching strategies. The study sheds light on the methods applied in The Mad Minute strategy and how we can benefit from it to narrow the gap resulting from traditional practices in English teaching by trying to achieve objective results that reflect the pedagogical and educational realities regarding the level of students' achievement in English.

Design of study

This quantitative study consists of two parts: first, it uses a descriptive survey approach that deals with a vital subject. Second, it adopts a pre-post-test experimental design with four experimental groups. All learners were given a pre-test before six weeks of using The Mad Minute strategy in class. The learners then took the same test one week after using it. Therefore, the original hypothesis is: "Students who are taught by using The Mad Minute strategy will have achieved higher scores in the post-test rather than in the pre-test". Subsequently, the null hypothesis that will be tested in the study is: "There is no statistically significant difference at the level of significance ($\alpha = 0.05$) between the mean scores of the pre-test and post-test".

Subjects and Setting

The researcher chose a particular population for the current study consisting of third-grade students from two public high schools in addition to their English teachers. The first school provided 76 students and 2 teachers while the second school provided 24 students and 2 teachers; a total of 100 female students distributed over six classes and 4 teachers. Pseudonyms were used to refer to each one of the teachers. The study took place in the first semester of the academic year 2018-2019.

Research Instruments

The data were analysed both in qualitative and quantitative methods to answer the five research questions that are mentioned in the study problem section.

Since this study has an anonymous student-and-teacher survey study, the researcher generated two questionnaires. The first one is designed for the students, based on the skills being taught using The Mad Minute strategy. It measures students' emotional aspect, social interaction, learning achievement, improvement in their higher thinking skills, and their interaction during class. Students were asked about their opinions towards using this strategy in their English classes. The second questionnaire was provided to the teachers who have used The Mad Minute strategy. It includes the same elements that are included in the student questionnaire but it has one extra open-ended question to elicit the teachers' perceptions of this method. Based on their experiences, the teachers were asked about the positive and negative effects of using The Mad Minute strategy in teaching English language in high schools.

The questionnaire consisted of 25 items. These items were designed by the researcher in light of how efficacious The Mad Minute strategy is as a means of enhancing the English language learning process. The instrument comprises five Likert-type items asking the respondents to specify their level of agreement or disagreement on a symmetric agree-disagree scale for a series of statements. The subjects were asked to rate each one from one to five: strongly agree (5) being the highest, and strongly disagree (1) being the lowest. Thus, the researcher tried to design valid and reliable questionnaires measuring learners' attitudes towards different aspects of language learning by using this particular strategy.

As mentioned before, the students took a pre-test before the study was applied, then they took the same test (pre-test) after the study ended. The assessment of this test is primarily described as a proficiency test with a time limit that measures how much new English the learners have learned. It can be described as a simple version of *The Standardized Test for English Proficiency (STEP)* in which it is designed to measure objectively the student's proficiency in English. This test made up of 30 questions, so the final score is out of 30. The following are the various parts of the test and their perspective percentages and their stipulated time limits: Reading Comprehension 30% (15 min), Sentence Structure 30% (10 min), Listening Comprehension 20% (7 min), and Composition Analysis 20% (8 min). The total time required to administer the test was approximately 40 minutes.

Data Collection Procedure

All the learners were given a pre-test before using The Mad Minute strategy in English classes as well as a post-test one week after they ended. First, the two questionnaires were translated into the respondents' L1 (Arabic), so they can know exactly what they are answering, and the teachers can express their ideas in the open-ended question freely. Then, a first draft was piloted on the students of the second school (24 students and their two teachers) to gain insights in terms of the choice of vocabulary items and grammar used in the questionnaire and a second time to run Cronbach's Alpha to establish the required internal consistency.

Next, one week later, the same subjects were given the same questionnaire and asked to respond to the items again. The questionnaire filled out in this session was compared with the previously filled out questionnaire and any differences were noted. The learners were asked to answer why there was a change in the answers provided. Learners found some items rather difficult to answer due to their content. Most of the students' reasons for the changes were used to make revisions to the questionnaires.

Next, the aim of this research was explained to both teachers and students and the researcher provided the questionnaires to all the students and their four teachers in both schools. Each teacher was asked to read and explain carefully each item included in the questionnaire to the students and to let them take their time responding to the questionnaire. Finally, the questionnaires were collected and analysed. The data gathered in this study were processed using Cronbach's Alpha to assure the internal consistency of the questionnaire. The results of Cronbach's Alpha indicated that the questionnaire had a reliability index of 0.80, which is considered satisfactory.

IV. FINDINGS

The purpose of this study is to examine the effectiveness of using The Mad Minute strategy in teaching English by summarizing and evaluating the results of pre-post-tests after using this strategy. Moreover, this study aimed to explore students' and teachers' perceptions of using this strategy in teaching and learning English. This section presents the findings from the students' and teachers' questionnaires and the results of the paired samples *t*-test that was used in the study.

Findings from the Research Questions

To answer the first two research questions above, the teachers were provided with an open-ended question to elicit their perceptions of this method. They were asked, as teachers who have experience of using this method, what they consider the positive and negative effects of using The Mad Minute strategy in teaching English language in high schools. Their answers were:

The advantages of using The Mad Minute strategy. The excerpts reveal that the teachers viewed The Mad Minute as a useful strategy as it provides four major advantages:

(i) the positive impact it has on encouraging students to express ideas, reach solutions and make contributions to discussions:

This particular strategy enables the teacher to have students elicit, practice and interact in a short period of time, which makes it a common strategy among high school English teachers. Whether it is an actual one-minute period or longer, it puts the students under a positive pressure that leads them to express ideas, find solutions, or contribute to a discussion spontaneously. (Leena)

(ii) the strategy's motivational impact:

It motivates students to cooperate with their classmates and increases competition between them. (Elham)

(iii) the feedback the strategy provides teachers on student understanding:

The Mad Minute strategy motivates students to participate in simple and different tasks. It also provides the teacher with immediate feedback and enables the teacher to find out if students have recognized the main point. Sometimes it is used to summarize the lesson. (Ghadah)

(iv) its usefulness in teaching grammar, vocabulary, speaking and listening skills:

I think that The Mad Minute strategy is a useful technique in teaching grammar, vocabulary, speaking and listening skills. (Amal)

The disadvantages of using this strategy. There were four main drawbacks of using The Mad Minute strategy as illustrated by the following survey excerpts taken from the teacher's surveys.

(i) causing anxiety to students who were more focused on the time limit than the task in hand:

Some students may consider this strategy as a nerve-wracking situation, worrying about time rather than working a task. (Leena)

(ii) it was not useful for teaching listening:

For me, using The Mad Minute strategy was not useful at all in teaching listening skill. Even though my students did not like it in the listening although they loved it in the vocabulary. (Ghadah)

(iii) it does not work with students who have learning difficulties:

Using this strategy is ineffective when you have students with learning disabilities. (Amal)

(iv) it can cause negative relationships among the students in a group context:

Sometimes, it causes negative reactions among the students, especially when they are doing group work. (Elham)

Students and teachers' perceptions of the Mad Minute strategy

To probe the attitudes of learners and their teachers towards the efficacy of The Mad Minute strategy in teaching and learning English, the subjects' attitude questionnaires were administered. The attitudes questionnaires were in the form of a five-point Likert scale ranging from strongly agree (5) to strongly disagree (1) and consisted of 25 items. All learners (100 students) and their four teachers were asked to respond to all the twenty-five items in the questionnaires. Table (1) illustrates the results gained from the students' questionnaire while Table (2) provides the results gained from their teachers' questionnaire.

TABLE 1:
RESULT OF THE STUDENTS' QUESTIONNAIRE RESPONDS TOWARDS THE EFFICACY OF THE MAD MINUTE STRATEGY IN TEACHING AND LEARNING ENGLISH.

No.	Statements	Strongly Agree%	Agree %	Neutral %	Disagree %	Strongly Disagree%
1	I enjoy using The Mad Minute strategy in the class	29%	42%	20%	5%	4%
2	It makes me feel more confident about myself	30%	37%	22%	9%	2%
3	It makes me feel more energetic when the class begins	51%	25%	19%	5%	0%
4	It makes me interested in what I am learning	25%	48%	20%	4%	3%
5	I feel more relaxed to do The Mad Minute activities with a group than working alone	58%	28%	9%	3%	2%
6	I enjoy working with classmates during The Mad Minute activities	44%	34%	19%	1%	2%
7	It motivates me to cooperate with my classmates	46%	41%	11%	1%	1%
8	It encourages me to accept my classmates' different ideas	27%	40%	22%	8%	3%
9	It gives me an opportunity to build positive relationships with my classmates	25%	44%	24%	5%	2%
10	It gives me an opportunity to take responsibility for my performance in a group work	32%	38%	21%	6%	3%
11	It helps me learning how to deal with my classmates during the class	29%	40%	25%	3%	3%
12	It increases and arranges my participation during the class	40%	41%	15%	3%	1%
13	It makes me more focused during the class	37%	33%	20%	6%	4%
14	It increases the competition with my classmates	55%	28%	15%	2%	0%
15	It helps me to express my ideas freely	30%	36%	20%	6%	4%
16	It makes me prepare for the class	50%	37%	8%	3%	2%
17	Using The Mad Minute is a useful technique in learning Grammar	30%	39%	19%	9%	3%
18	Using The Mad Minute is a useful technique in learning vocabulary	37%	35%	20%	3%	5%
19	Using The Mad Minute is a useful technique in learning listening skill	27%	31%	9%	20%	13%
20	Using The Mad Minute is a useful technique in learning speaking skill	32%	43%	15%	8%	2%
21	Using The Mad Minute is a useful technique in learning reading skill	24%	37%	19%	9%	11%
22	Using The Mad Minute is a useful technique in learning writing skill	31%	29%	35%	7%	3%
23	I can improve my knowledge when I am doing The Mad Minute activities	38%	26%	29%	7%	0%
24	I am interested in finding different ideas during The Mad Minute activities	40%	41%	16%	3%	0%
25	It makes me think about how much time is important	61%	29%	10%	0%	0%

As Table 1 shows, statements 1-5 measure the effects of The Mad Minute on the students' emotional response: 71% of the students reported that The Mad Minute is an enjoyable and effective strategy. Furthermore, statements 5-11 measure the effects of The Mad Minute on the students' social interaction. The number of students who preferred working with a group during The Mad Minute activities (86%) was higher than the ones who preferred working alone (5%). Also, 76% of the students mentioned that using the method makes them more energetic when the class begins while only 5% of them disagree with this statement. Statements 10-16 measure the effects of The Mad Minute on students' interaction during class. The results illustrate that the major advantages of using The Mad Minute strategy were: first, it increases the competition between the learners (55% strongly agree and 28% agree). Second, all the teachers (100%) reported that the intervention increases and arranges students' participation during the class. Third, 87% of the students mentioned that it makes them prepare for the classes. Moreover, statements (16-22) measure the effects of The Mad Minute on the students' learning achievement. Almost a third (30.3%) of the students were more inclined to use The Mad Minute strategy to improve their learning skills ability in general. However, a significant percentage of the students (33%) were not satisfied with using this strategy for learning listening skills. Finally, statements 4,8,15, & 23-25 measure the effects of The Mad Minute on the students' higher thinking skills; 90% of the learners stated that using The Mad Minute strategy made them consider the importance of time. However, 29% of the students were not sure or not if they could improve their knowledge when they are partaking in The Mad Minute activities.

Next, Table 2 shows the responses of the teachers; statements (1-5) measure the effects of The Mad Minute on the students' emotional response: 100% of the teachers reported that The Mad Minute is an enjoyable and effective strategy, 50 % agreed that it raises student's confidence in class (although 50% were neutral on this), and 100% of teachers believed that the strategy raised student's energy levels and made them more interested in what they were teaching.

However, while 75% of teachers thought that the strategy made students more relaxed in a group than working alone, 25 % disagreed. Next, for items 5-11 that measure teacher's perceptions of student's interactions when using the strategy, all the teachers (100%) reported that their students enjoyed working with other students, all (100%) teachers reported that students felt motivated and the strategy built cooperation, encouraged students to accept others ideas. Next, while 75% of teachers agreed that the strategy provided an opportunity for students to build positive relationships with classmates, 25% were neutral, and while 75% reported that the strategy gave students an opportunity to take responsibility in performance in group work, 25% disagreed. Next, 75% of teachers said the strategy helped students learn how to deal with their classmates, 25% were neutral. Statements 10-16 measure the effects of The Mad Minute on students' interaction during class and 100% of teachers agreed that it enhances student's participation in class, makes them more focused, increases competition between them. However, only 50% of teachers reported that they felt the strategy helped students to express their ideas more freely and 50% were neutral on this measure although 100% believed it made students prepare for the class. Items 16-22 the effects of The Mad Minute on the students' learning achievement and all (100%) of teachers agreed with these items. Finally, items 4,8,15, & 23-25 measure the effects of The Mad Minute on the students' higher thinking skills. Here, 100% of teachers agreed that the strategy made students interested in what they were teaching and 100% also agreed that it helped students accept others different ideas. However, only 50% of teachers agreed that it helped students express their ideas freely while 50% were neutral on this item. Finally, all teachers (100%) agreed that the strategy helped students improve their knowledge, promoted different ideas, and should be used more as a teaching strategy in English classes.

TABLE 2:
RESULT OF THE TEACHERS' QUESTIONNAIRE RESPONDS TOWARDS THE EFFICACY OF THE MAD MINUTE STRATEGY IN TEACHING AND LEARNING ENGLISH.

No.	Statements	Strongly Agree%	Agree %	Neutral %	Disagree %	Strongly Disagree%
1	I totally agree that using The Mad Minute strategy is useful and fun in the class	(25%) 1	(75%) 3			
2	It makes students feel more confident about themselves	(25%) 1	(25%) 1	(50%) 2		
3	It makes students feel more energetic when the class begins	(50%) 2	(50%) 2			
4	It makes students interested in what I am teaching	(25%) 1	(75%) 3			
5	I think students feel more relaxed to do The Mad Minute activities with a group than working alone		(75%) 3		(25%) 1	
6	Students enjoy working with classmates during The Mad Minute activities	(50%) 1	(50%) 1			
7	It motivates students to cooperate with their classmates	(50%) 2	(50%) 2			
8	It encourages students to accept their classmates' different ideas	(25%) 1	(75%) 3			
9	It gives students an opportunity to build positive relationships with their classmates	(25%) 1	(50%) 1	(25%) 1		
10	It gives students an opportunity to take responsibility of their performance in a group work	(50%) 2	(25%) 1			
11	It helps students learning how to deal with their classmates during the class	(25%) 1	(50%) 2	(25%) 1		
12	It increases and arranges students' participation during the class		100% 4			
13	It makes students more focused during the class	(50%) 2	(50%) 2			
14	It increases the competition between the students	(25%) 1	(75%) 3			
15	It helps students to express their ideas freely		(50%) 2	(50%) 2		
16	It makes students prepare for the class	(50%) 2	(50%) 2			
17	Using The Mad Minute is a useful technique for teaching grammar	(25%) 1	(75%) 3			
18	Using The Mad Minute is a useful technique for teaching vocabulary	(50%) 2	(50%) 2			
19	Using The Mad Minute is a useful technique for teaching listening skills	(25%) 1	(25%) 1		(25%) 1	(25%) 1
20	Using The Mad Minute is a useful technique for teaching speaking skills	(50%) 2	(50%) 2			
21	Using The Mad Minute is a useful technique for teaching reading skills	(25%) 1	(75%) 3			
22	Using The Mad Minute is a useful technique for teaching writing skills	(50%) 2	(50%) 2			
23	Students can improve their knowledge when we use The Mad Minute-based activities	(50%) 2	(50%) 2			
24	Students are interested in finding different ideas during The Mad Minute activities	(50%) 2	(50%) 2			
25	The Mad Minute should be used more as a mean in promoting learners' English ability	(75%) 3	(25%) 1			

Finally, the effects of this strategy on students (analysis of test scores).

The paired t-test was conducted to assess the improvement in the students' level in English if any. Pre-test and post-test mean scores were carried to evaluate the students' achievement following the training classes on this strategy. A statistically significant improvement was observed in the post-test scores for all students with a $P < 0.05$ [Table 3]. Thus, the null hypothesis is rejected and the original hypothesis is accepted.

TABLE 3
 PAIRED SAMPLES *T*-TEST RESULTS
Paired Samples Test

		Paired Differences			95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error	Lower	Upper			
Pair 1	Pretest - Posttest	-6.810	2.436	.244	-7.293	-6.327	-27.958	99	.000

Paired Samples Correlations

		N	Correlation	Sig.	Bootstrap for Correlation ^a		BCa 95% Confidence Interval	
					Bias	Std. Error	Lower	Upper
Pair 1	Pretest & Posttest	100	.922	.000	.000	.013	.891	.945

a. Unless otherwise noted, bootstrap results are based on 10000 bootstrap samples

Paired Samples Statistics

		Statistic	Bias	Std. Error	BCa 95% Confidence Interval		
					Lower	Upper	
Pair 1	Pretest	Mean	17.86	.00	.57	16.71	18.98
		N	100				
		Std. Deviation	5.777	-.039	.377	5.055	6.393
		Std. Error Mean	.578				
Posttest	Posttest	Mean	24.67	.00	.43	23.80	25.49
		N	100				
		Std. Deviation	4.351	-.033	.349	3.710	4.923
		Std. Error Mean	.435				

a. Unless otherwise noted, bootstrap results are based on 10000 bootstrap samples

Figure 1 shows a box plot of the distribution of scores on the paired *t*-test, which contained 30 items worth 1 point each. Students got one point for correctly answering each question, for a total of 30 possible points on the test. The box plot shows that there were outliers in the data and the distributions were not normal—both were negatively skewed. The sizes of the boxes were not similar, and numeric reports of the SDs in Table 3 showed that the scores at testing times do not have homogeneous variance, with the variance being higher on the pre-test ($M = 17.86$, $SD = 5.77$, $N = 100$) and post-test ($M = 24.67$, $SD = 4.35$, N). The assumption that the data were normally distributed was considered satisfied, as the skew and kurtosis levels were estimated at .040 and -.52, respectively, which is less than the maximum allowable values for a *t*-test (i.e., skew < |2.0| and kurtosis < |9.0|; Posten, 1984). It is also noted that the correlation between the two tests was estimated at $r = .92$, $p < .001$, suggesting that the dependent samples *t*-test is appropriate in this case. The null hypothesis of equal resilience means was rejected, $t(99) = -27.95$, $p < .001$. A parametric paired samples *t*-test found that a 95% CI for the difference between the pre-test and post-test showed a statistical and important difference [-7.29, -6.327]. Because this CI is very narrow, this means that the difference between the two tests is statistically significant. Also, because the interval is narrow, we can say precisely how much of an effect The Mad Minute strategy had. The data show that its use made a large difference to the student's knowledge of English. A Cohen's *d* effect size for this comparison was $d = 2.7$ (using the average of the two SDs as a standardizer), which meant that the difference between the pre-test and post-test was almost equal to the SD of the difference between the groups 2.4. According to Plonsky and Oswald's guidelines (2014), this is a very large effect size and shows that The Mad Minute strategy was extremely effective.

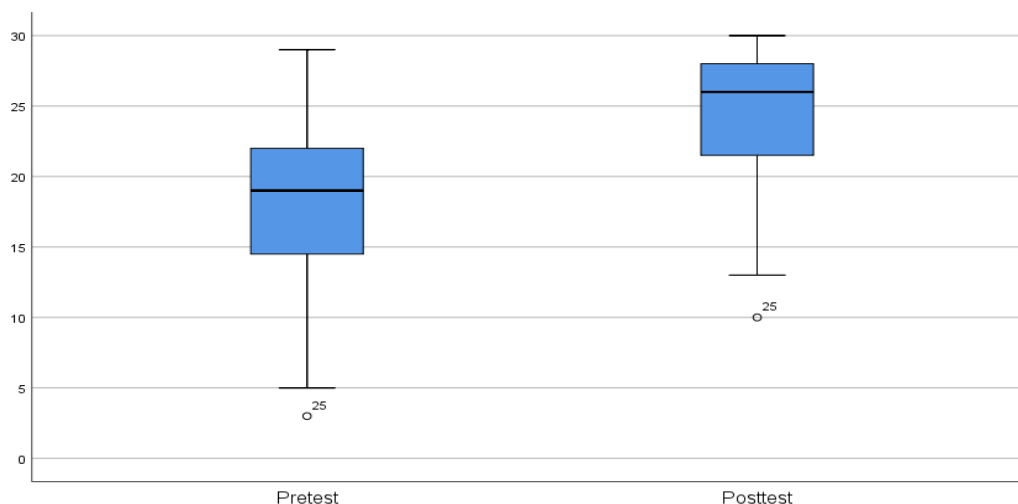


Figure 1 A box plot of pre-test and post-test scores

The BCa bootstrapped 95% CI for the pre-test vs. post-test comparison is $[-7.31, -6.33]$, showing that there was at least a nearly 7 points improvement from pre-test to post-test, and possibly an increase as large as 6 points. The 95% CI shows that the mean gain from pre-test to post-test can be assumed, with 95% confidence, to lie within this interval, and so it is a real and a very large gain. Further, the precision in the interval shows that we can very confident of exactly where the real mean gain lies.

Bootstrap for Paired Samples Test

		Bootstrap ^a				BCa 95% Confidence Interval	
		Mean	Bias	Std. Error	Sig. (2-tailed)	Lower	Upper
Pair 1	Pretest - Posttest	-6.810	.002	.242	.000	-7.310	-6.330

a. Unless otherwise noted, bootstrap results are based on 10000 bootstrap samples

V. DISCUSSION

The current study set out to determine the effectiveness of The Mad Minute intervention as a strategy-building L2 English language technique among Saudi Arabian high-school students. Moreover, this study seeks to discover learners and teacher's perceptions of the efficacy of this approach in terms of how much it developed students' performance in English. The sample consisted of 100 female students from two Saudi public high schools and four ESL teachers. All participants were asked to complete two questionnaires relating to how useful and effective they found the Mad Minute strategy to be. All the teachers acknowledged that it is a highly effective strategy for teaching English to high-school students. This section will discuss the results according to (1) the advantages of the Mad Minute strategy; (2) the disadvantages of the Mad Minute strategy; (3) compare and contrast the study's findings with those mentioned in the literature review; (4) provide an explanation for the findings and (5) address the present study's limitations.

A. The Advantages

The first teacher, Leena, pointed out that using this strategy helps teachers to motivate students, elicit key vocabulary, practice their English and interact with one another in a short period of time. She also thinks this is the reason which makes The Mad Minute a common strategy among high- school English teachers. She also explained that whether an actual one-minute period or longer was used, this serves to put the students under positive pressure, which enables them to express their ideas, find solutions, and/or contribute to a class or group discussion spontaneously. Indeed, this claim is supported by the students' responses to the questionnaire that revealed the same results (as illustrated in Table 1).

Next, similar to Leena, the second teacher, Ghadah, also believes that The Mad Minute strategy motivates students to participate in different tasks. In addition, Ghadah explained how it provides teachers with immediate feedback, enabling them to find out if students have recognized the main points (or not) and how it can be used to summarize the main points of a lesson.

Amal, the third teacher mentioned a different advantage; she thinks that The Mad Minute strategy is a useful technique in teaching grammar, vocabulary, speaking and (listening) skills. Amal's point of view here can be agreed with to some extent but one unexpected outcome was her opinion about the effectiveness of using The Mad Minute strategy in teaching listening skills. Specifically, approximately one-third of the students reported that they considered using this strategy as ineffective in learning listening skills as Table 1 (above) highlights. Moreover, 50% of the

teachers stated that using The Mad Minute does not help them in teaching listening skills as indicated in Table 2 in the finding section. This issue will be discussed in the next part, which deals with the disadvantages of the strategy.

Finally, the fourth teacher, Elham, explained a different positive impact of this strategy: how it motivates students to cooperate with their classmates and how it increases competition among them at the same time. Likewise, the results from the questionnaires of the study revealed that when using this strategy, there is a significant positive effect on the students' interpersonal relationships.

B. The Disadvantages

First, Leena explained that some students may consider this strategy to be anxiety-inducing because they may be worrying about the time limit rather than working on the task at hand. While this could be true, good teachers can help their students mitigate such stress by encouraging them to trust themselves and their abilities. Teachers also have to focus on improvement rather than overall scores to decrease students' anxiety. Thus, students eventually will be familiar with the stresses placed upon them by this strategy and become used to them.

Regarding the advantages mentioned by the third teacher, Amal, that The Mad Minute strategy helps in teaching listening skills, surprisingly, Ghadah declared that using this strategy was not at all effective for teaching listening skills. She also observed that her students were not satisfied when they use the strategy for listening activities although they enjoyed it in vocabulary-based activities. Therefore, it can be assumed that the effectiveness of this strategy depends on how the teacher applies it. For example, if teachers apply it correctly, students may be more likely to enjoy it and benefit from its positive impacts. Therefore, future research should concentrate on investigating the most effective ways of applying the strategy to maximize its effectiveness in teaching and learning listening skills.

The third teacher, Amal, made an important point: she said, "using this strategy is ineffective when you have students with learning disabilities" and this particular point was also raised by several parents and teachers. Therefore, it is critical to consider the effect of The Mad Minute on students with learning disabilities. According to Department of Special Education in Saudi Arabia in 2015, about 7% of students have a learning disability, and 20% or more may have unidentified and unaddressed learning and attention issues, leading to a dangerous blind spot for teachers. Far from being bad at English, these students obviously need more time to work on different English activities (Algarni, 2017). In addition, using pair work and groups to pool results and then giving the whole class feedback would encourage every student to be successful.

Finally, Elham pointed out that The Mad Minute strategy may cause negative reactions between students, especially when they are engaged in group work. However, when the respondents were asked about the effects of The Mad Minute on the students' social interaction (items 5-11 in the questionnaires), 69% of students consider this method as an opportunity to build positive relationships with their classmates and 75% of teachers agreed with this. Similarly, for all the other statements that measured the student's social qualities, all the respondents rated the strategy highly. Therefore, one may consider that here, Elham has only assumed that the strategy can cause negative reactions among students or it is a misunderstanding.

Furthermore, when the teachers were asked in the open-ended item how effective they thought this strategy is, they honed in more on the specific benefits of the strategy. Their responses were all positive. However, this has left the researcher with no definitive data to analyse except to note that none of the four teachers was totally negative about the strategy's effectiveness. Therefore, from this, we can interpret that the teachers' answers did not specifically address the effectiveness aspects of the strategy.

C. Comparison of the Results with Other Studies

Although Boaler (2014) claimed that using time limits for class activities (such as in the Mad Minute strategy studied in the present paper) can discourage young students leading to anxiety and a long-term fear of the subject, the present study showed that teachers believed that by allowing students to become used to the fast pace of the Mad Minute this will allow them to overcome any anxieties. However, as the teacher, Amal, pointed out, students with disabilities would find this particular learning approach difficult and anxiety-inducing precisely for reasons linked to their disability and not because of their poor English skills. Therefore, it is recommended that activities that could unfairly disadvantage disabled students should be avoided and that such student's physical limitations should be taken into account when setting up time-sensitive activities (Algarni, 2017).

Continuing on the theme of student anxiety, interestingly, because Boaler's (2014) sample consisted of primary-school children (unlike the sample used in the present study who are high-school students), this could explain the high levels of anxiety in the younger children. However, it is necessary here to point out that Tankard (2018) considers limited short-time techniques can be used for all levels from elementary to advanced although he argued that teachers should not use it continuously because it does not suit every lesson or learning style.

On the topic of game-based learning activities such as the Mad Minute, other researchers have also joined in the long-running debate about whether such activities induce anxiety activities for students rather than providing a real pedagogical benefit compared to non-game-based learning activities (e.g. Chuang, 2007; Zeng, 2005) and so it may be beneficial if ESL teachers are offered training to identify if game-based activities such as the Mad Minute are actually causing anxiety to students and if so, the extent to which this anxiety is detrimental to student's learning outcomes and or psychological wellbeing. Specifically, Wu's (2002) study showed that using game-based lesson activities (such as the

Mad Minute where students are pitted against each other under time pressure) can actually be counter-productive to learning outcomes. For example, failing to 'win' a particular game or round (i.e. losing or getting 2nd or 3rd place) can increase quantitative measures of anxiety, stress and depression in the students. For example, using classroom observations, interviews, and the Foreign Language Classroom Anxiety Scale (FLCAS) to measure ESL student's anxiety when participating in competition-based games found that ESL students in Taipei asserted that such activities represented a major source of anxiety.

Contrary to Boaler (2014), Pham (2018) demonstrated that the students in his study preferred using The Mad Minute strategy in mathematics and he observed that the more his students used the strategy, the more they improved their accuracy and speed. Similarly, the students in the present study prefer using this method in their English classes. This 'gamification' of study in the ESL context has also been shown to be useful in naturally supporting student's acquisition of vocabulary as it would in normal student-to-student play (Angelova & Lekova, 1995; Atake, 2003; Deng, 2006). Besides this, one unanticipated finding was the positive effects this strategy had on developing students' English level as a whole and their sub-skills, which may be attributed to the advantages of this strategy that are accepted among students. Some of those advantages are encouraging students to prepare for class and being energetic; both of which increase students' class participation as well as a motivating environment that provides students with greater confidence in English. The Mad Minute strategy also helped students learn how to deal with their classmates during class and increases the level of competition among them.

In terms of Tankard's (2018) findings that highlighted several significant benefits of using short time limits in educative activities (e.g. providing strong motivation and enhancing confidence), the use of short time limits also engages students and adds an element of variety and fun to classroom activities. Further, this approach holds students' attention and makes them keen to see what the next step will be. Therefore, the findings of the present study are in line with Tankard's findings in relation to the benefits that The Mad Minute strategy provides for both teachers and students.

D. Explanation of Results

First, in terms of the Mad Minute's positive results according to teachers and students (i.e. increased motivation, willingness to learn, useful feedback for teacher's on how much students have learned/understood a particular learning outcome, teaching grammar/vocabulary skills) it appears that this activity provides a class-wide forum in which motivated and outgoing students can demonstrate their knowledge and understanding of the learning content and be rewarded in front of their peers for doing so. While this may be beneficial for these more outgoing and socially-confident students, other students who may be socially ill-at-ease or may not have grasped a learning outcome completely (or at all) may feel anxious and discouraged by the use of such a competition-based approach to learning (e.g. Chuang, 2007; Zeng, 2005). Indeed, as Wu's (2002) study showed, classroom games that involving time pressure tend to raise student's anxiety levels and they considered such activities as a major cause of stress. This finding contrasts with Krashen's Affective Filter hypothesis. This proposes that any anxiety or stress encountered in the learning environment will 'raise' an emotional barrier within students which will prevent them from performing to their best in the learning process (Krashen, 2003). Rather, Krashen asserts, an optimal learning environment can be created by making the classroom (or another learning environment) a safe, supportive, welcoming place where students are not judged for making mistakes or failing to perform. Therefore, although some students found the Mad Minute strategy useful and motivating, it must be borne in mind that other, less confident or less able students may have found it anxiety-inducing (although they may have been reluctant to say so because of the Hawthorne effect (Salkind, 2010) where those under study modify their response according to what they feel the researcher or observer wishes to see or hear. Thus, because the Mad Minute strategy was the object of this study, it is possible that some respondents who may have found the strategy stress-inducing or ineffective as a learning tool may have been reluctant to express this view for fear of going against their teacher's choice of class activity.

E. Limitations

In terms of limitations, the present study was limited in sample size, student age, student level, diversity of educational context, and research methods. First, because it only sampled four teachers and 100 students within the narrow field of two Saudi high schools, its *external validity* was low (Mitchell & Jolley, 2001). This means that because of the small number of students and teachers sampled and the narrow research context of the Saudi high-school system, it is difficult to generalise the paper's findings across other educational contexts. For example, using the Mad Minute strategy in mixed L1 ESL classes or with non-Arabic-speaking students. Therefore, it is recommended that future research takes in a wider sample population covering wider age groups, a variety of different educational contexts (i.e. western and Arabic), a variety of ESL levels (e.g. CEFR (Common European Framework of Reference for Languages) from A1 to C1 and also the inclusion of an empirical test to measure anxiety such as the Foreign Language Classroom Anxiety Scale (FLCAS) as used in Wu's (2002) study. These measures would provide a more in-depth view of the advantages and disadvantages of using fast-paced, game-based learning activities such as the Mad Minute in ESL classes.

VI. CONCLUSION

The major objective of this study was to investigate the effect of using The Mad Minute strategy in teaching and learning English. It has noticeable positive effects on students' emotional aspects, social interaction, learning achievement, higher thinking skills, improvement, and interaction during class. Overall, it was observed that the majority of the students and their teachers felt that The Mad Minute is a useful strategy and this indicates that this modern method contributes to raising students' level of achievement in English language acquisition and learning among third-grade students by encouraging positive student interactions, accompanying activities, and the way in which educational learning situations are implemented in this strategy.

To sum up, the findings of this study show that using The Mad Minute strategy in teaching English in high schools has a significant number of benefits in general. Further, this study provides support to encourage tutors and teachers to use this particular strategy in teaching English. Finally, this study represents the first that explores the effectiveness of using The Mad Minute strategy in teaching English on the improvement of students' achievement in English. However, the present study is limited due to its small sample size (only 4 teachers) and the study's sample of only two high schools. In terms of future research in this area, it is recommended that the study is conducted in an expanded form with larger samples of teachers across various schools and subjects. More specifically, it is recommended that more studies are conducted to examine this strategy in-depth and explore more of its effectiveness on other population samples by using different study methods and age levels in different educational environments.

APPENDIX A. STUDENTS' QUESTIONNAIRE

Q1\ Thinking about The Mad Minute strategy, how much do you agree or disagree with the following statements? For each statement, please check the appropriate box.

No.	Statements	Strongly Agree%	Agree %	Neutral %	Disagree %	Strongly Disagree%
1	I enjoy using The Mad Minute strategy in the class					
2	It makes me feel more confident about myself					
3	It makes me feel more energetic when the class begins					
4	It makes me interested in what I am learning					
5	I feel more relaxed to do The Mad Minute activities with a group than working alone					
6	I enjoy working with classmates during The Mad Minute activities					
7	It motivates me to cooperate with my classmates					
8	It encourages me to accept my classmates' different ideas					
9	It gives me an opportunity to build positive relationships with my classmates					
10	It gives me an opportunity to take responsibility for my performance in a group work					
11	It helps me learning how to deal with my classmates during the class					
12	It increases and arranges my participation during the class					
13	It makes me more focused during the class					
14	It increases the competition with my classmates					
15	It helps me to express my ideas freely					
16	It makes me prepare for the class					
17	Using The Mad Minute is a useful technique in learning Grammar					
18	Using The Mad Minute is a useful technique in learning vocabulary					
19	Using The Mad Minute is a useful technique in learning listening skill					
20	Using The Mad Minute is a useful technique in learning speaking skill					
21	Using The Mad Minute is a useful technique in learning reading skill					
22	Using The Mad Minute is a useful technique in learning writing skill					
23	I can improve my knowledge when I am doing The Mad Minute activities					
24	I am interested in finding different ideas during The Mad Minute activities					
25	It makes me think about how much time is important					

REFERENCES

- [1] Adaoud, E. (2004). Science as memorization or participation. www.moe.edu. Kw. Retrieved in Dec. 19th 2019.
- [2] Algarni, M. (2017). Teacher's Guide and Learning Disabilities. Department of Special Education: department of learning disabilities. Retrieved in Dec. 19th 2019 from <https://drive.google.com/file/d/0B6bhgcfQ0ig-QW5DdXVNOFljZzg/view>.
- [3] Alhojailan, A. (2015). Perceptions of academic writing by some Saudi graduate students studying in American universities. (Doctoral dissertation). Retrieved from ProQuest Central; ProQuest Dissertations & Theses Global. (1830467924).
- [4] Angelova, T. G., & Lekova, B. C. (1995). A model of early childhood foreign language education through playing motoric games. Retrieved October 22, 2009, from ERIC database. (ERIC Document Reproduction Service No. ED397957).
- [5] Appointment Plus. (2015, October 15). Why time management is important. [Web log post] Retrieved in Dec. 19th 2019 from <https://www.appointmentplus.com/blog/why-time-management-is-important/>.
- [6] Armstrong, S. (2013, January 18). The 10 most important teaching strategies. [Web log post] Retrieved in Dec. 19th 2019. from <http://www.innovatemyschool.com/ideas/the-10-most-powerful-teaching-strategies>.
- [7] Atake, K. (2003). Using games to teach English in Japanese junior high school. Retrieved November 3, 2009, from ERIC database. (ERIC Document Reproduction Service No. ED479748).
- [8] Boaler, J. (2014). Research suggests timed tests cause math anxiety. [Web log post] Retrieved in Dec. 19th 2019. <https://www.youcubed.org/wp-content/uploads/2017/03/nctm-timed-tests.pdf>.
- [9] Broughton, G., Brumfit, C., Pincas, A., & Wilde, R. D. (2003). Teaching English as a foreign language. Routledge. Retrieved from [http://prodibing.fkip.unsri.ac.id/userfiles/Teaching%20English%20as%20a%20Foreign%20Language%20\(Routledge%20Education%20Books\).pdf](http://prodibing.fkip.unsri.ac.id/userfiles/Teaching%20English%20as%20a%20Foreign%20Language%20(Routledge%20Education%20Books).pdf).
- [10] Chuang, H. Y. (2007). The study of foreign language anxiety, English learning motivation and strategies in the elementary school. Unpublished master's thesis, National Chiayi University, Chiayi, Taiwan.
- [11] Deng, Q. H. (2006). A study of using games in primary school English teaching. Unpublished master's thesis, Northwest Normal University, Shensi province, China.
- [12] Felder, R. M., & Silverman, L. K. (1988). Learning and teaching styles in engineering education [Electronic Version]. *Journal of Engineering Education*, 78(7), 674–681. Retrieved in Dec. 19th 2019 from <http://winbev.pbworks.com/f/LS-1988.pdf>.
- [13] Holmes, R. (2014). History trails: Wars and conflicts. BBC. Retrieved in Dec. 19th 2019 from http://www.bbc.co.uk/history/trail/wars_conflict/weapons/musket_to_breech_10.shtml.
- [14] Karabenick, S. A., & Noda, P. A. (2004). Professional development implications of teachers' beliefs and attitudes toward English language learners. *Bilingual Research Journal*, 28(1), 55–75. DOI: 10.1080/15235882.2004.10162612.
- [15] Krashen, S. (2003). Explorations in Language Acquisition and Use. Portsmouth: Heinemann.
- [16] Mitchell, M., & Jolley, J. (2001). Research Design Explained (4th Ed) New York: Harcourt.
- [17] Pham, S. (n.d). Mad minute. Better lesson. [Web log post] Retrieved in Dec. 19th 2019 from https://betterlesson.com/browse/blended_video/1619/mad-minute.
- [18] Plonsky, L., & Oswald, F. L. (2014). How big is “big”? Interpreting effect sizes in L2 research. *Language Learning*, 64(4), 878–912.
- [19] Posten, H. O. (1984). Robustness of the Two-Sample T-Test. *Robustness of Statistical Methods and Nonparametric Statistics*, 92–99. doi: 10.1007/978-94-009-6528-7_23.
- [20] Salkind, N. (2010). *Encyclopaedia of Research Design*, Volume 2. Thousand Oaks, CA: SAGE Publications, Inc. p.561. ISBN9781412961271.
- [21] Schermerhorn, J., Hunt, G., & Osborn, R. (2003). *Organizational Behaviour*. New York: John Wiley and Sons, Inc. 8th Edition.
- [22] Tankard, F. (2018). The Most Effective ESL Teaching Strategy You're Not Using: Absurdly Short Time Limits. *Fluent U*. [Web log post] Retrieved in Dec. 19th 2019. from <https://www.fluentu.com/blog/educator-english/effective-esl-teaching-strategies-limits/#>.
- [23] Terada, Y. (2017). Tips for Tackling Timed Tests and Math Anxiety. *Edutopia*. [Web log post] Retrieved in Dec. 19th 2019 from <https://www.edutopia.org/article/should-we-abolish-timed-math-tests-youki-terada>.
- [24] Wu, G. C. (2002). Foreign language anxiety of EFL elementary school learners: A case study in Taipei County. Unpublished master's thesis, National Taipei Teachers College, Taipei, Taiwan.
- [25] Zeng, S. W. (2005). The study of foreign language anxiety and English learning strategies in the elementary school. Unpublished master's thesis, National Taichung University, Taichung, Taiwan.

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