

## The Effect of the Hot Seat Strategy on Female Students' Achievement and Attitudes Towards Geography

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### Abstract

The hot seat strategy gives learners the opportunity to be active in their learning by asking questions, discussing and dialogue, and emphasizing their role and positive position in the learning process. The purpose of this study was to examine the effect of the hot seat strategy on female students' achievement and attitudes towards geography. A quasi-experimental experiment was designed and implemented, specifically a pre test post test- control-group design with a quantitative approach. The study sample consisted of 50 second middle school students, Bagdad, Iraq. According to the T-test analysis, there were differences between treatment and control groups in academic achievement as well as in attitudes towards Geography in post- test mean scores in favor of the treatment group. This shows the effectiveness of the hot seat strategy intervention.

**Keywords:** the hot seat strategy, female students, achievement, attitudes towards geography

## 1. Introduction

The main goal of education is to develop the individual in a balanced physical, social and moral manner by providing him/her with the knowledge, values and specialized skills that make him/her a positive person, capable of contributing positively to solving his/her problems and the problems of his/her society (Utkugün, 2023). With the rapid scientific technological change and the emergence of new teaching and educational theories and strategies, it has become necessary to improve and develop the performance of both the teacher and the learner in the educational learning situation in a way that meets the requirements of educational changes and innovations, whether they are means, tools, educational techniques or teaching methods (Özbek & Uyumaz, 2020).

Teaching methods depend in their performance on a set of skills that the teacher must master in order to implement them well to achieve the goals, and each teaching strategy includes a number of teaching methods (Çelik et al., 2021). The teacher's mastery of the mechanisms of each method, his proficiency in the skills of dealing with them, and his understanding of the techniques of implementing them, guarantee the success of the chosen strategy in the educational situation (Morina & Kervan, 2018).

Geography is not a collection of mysterious information. Everywhere, people need information about the characteristics of the earth and the environment they live in. In this respect, geography is a spatial study (Fusun & Cemaletti, 2011). Geography focuses on asking questions and solving problems rather than memorizing isolated events and facts. Geography has a utilitarian value in the modern world. Geographical knowledge, which is necessary in practice, becomes critical in order to facilitate world connections. For example, a doctor who treats a disease without understanding the natural environment that grows and spreads it, or a producer who is indifferent to world markets and resources, or a postal clerk who cannot distinguish Guinea from Guyana, it is not possible for someone who lacks geographic knowledge to perceive world connections and solve problems (Fusun & Cemaletti, 2011). Geography enables people to solve not only local problems but also global problems (Bednarz et al., 1994).

Geography education allows examining natural and human problems in the world from different perspectives and finding answers using different scales. It provides a general

and local understanding of the world, understanding maps, an investigative approach, and problem-solving skills inside and outside the classroom. With the help of geography, students focus on understanding and solving problems about the environment (Yıldırım & Pinar, 2015). While studying geography, which is an important link between natural and social sciences, students encounter different cultures and societies. Thus, they understand how nations are connected to each other. This leads them to think about the place of their own countries in the world, their values, rights, and responsibilities towards other people.

Information is not stored in the human mind as it is. Furthermore, the human mind is not an empty warehouse where all information is stored. All learning occurs as a result of a structuring in the mind. During the structuring process, the individual tries to create meaning about the information in his mind and to appropriate the meaning he creates. In other words, individuals create learning not in the form presented to them but in the form they structure in their minds. Furthermore, students are considered successful not as long as they can repeat what they have learned but as long as they can demonstrate it (Özen Ünal et al., 2022).

Adopting this approach in schools and switching to student-centered teaching is inevitable for students to learn meaningfully (Alyas, 2021). Effective teaching methods develop positive attitudes and tendencies towards the learning process (Al Mousawi, 2023). Thus providing students with equivalent opportunities (Khalil, 2020). During the learning process, students do what helps them absorb information (Badawy, 2022). William Ward emphasized that the teacher should be a person who facilitates learning rather than a didactic teacher by explaining it as “A mediocre teacher tells, a good teacher explains, a qualified teacher shows, and an ideal teacher makes them think.” According to Doug Harris, the ideal teacher is not only the one who transfers information, but also the one who mobilizes students and attracts their curiosity (Doug, 1995). “The average traditional American classroom, whether elementary or college level, is like a one-man show with a subdued but semi-conscious audience.” (P. 1) . It is recommended that teachers should adopt educational designs stemming from educational theories that emphasize the importance of student's role in educational process (Maikhan & Mohammed, 2023).

This is an attempt to describe the atmosphere of a classroom where traditional methods are used. Studies have also found that students do not listen 40% of the time while a lesson is being taught. Another study found that students who took an Introduction to Psychology course with teacher-centered teaching methods remembered only 8% more of the course after four months than a control group who did not take the course at all. (Bonwell & Eison, 2000).

These studies provide important clues about the fact that the narration method should be used as little as possible in teaching. However, the fact that this method is used a lot in geography lessons in studies conducted in our country is an indication that all students are considered auditory learners and that visual and tactile learners are ignored. It is true that direct narration is the most effective way to transfer “specific” information, but it should not be forgotten that the narration method is also the least memorable. The teacher should take into account the individual differences of the students and make use of different teaching methods and techniques, and should take care to ensure that the student is more active and takes responsibility in the learning process. As a result, this problem in geography education causes the behaviors of the students in cognitive, affective and psychomotor areas not to be at the targeted level. For this reason, it is necessary to provide learning activities that will enable students to participate effectively in the learning process and learning strategies that will serve them in taking responsibility for their own learning.

The hot seat strategy gives learners the opportunity to be active in their learning by asking questions, discussing and dissenting, and emphasizing their role and positive position in the learning process, unlike the trend that perpetuates the learner's passivity in the learning process and restricts his role to mere reception, which is the traditional trend, and it also gives them the opportunity to see the extent of learners' ability to concepts. The idea of the hot seat strategy is based on students asking questions to their colleagues or the teacher, so that the focus of the questions is a specific topic for the students (Abid, 2020).

This strategy is one of the most active and effective methods when the teacher wants to establish certain values and beliefs in the learner. The strategy is used to develop several skills such as formulating questions and exchanging ideas and opinions. It is also

preferred when the teacher wants to elaborate on a specific concept( Rababah, 2020). Al-Zayoud (2021) who found that the hot seat strategy was effective for the experimental group. Abu Jabal (2021) who indicated that the strategy helped students to think, discuss and analyze, and gave them the freedom to express their opinions, linking situations that require thinking to their daily lives.

The hot seat strategy is considered a response to the traditional trend in education, which is based on giving the student a passive role in the educational process as a recipient of information and nothing more. This strategy, which is one of the active learning strategies, seeks to activate the student's role in the educational process by increasing the level of his practical participation while giving the student a positive role inside the class, through constructing questions and exchanging ideas between students to consolidate the topic of the lesson, or when the teacher wants to go into more detail on one of the lesson topics and investigate the students' ideas about it.

### **1.1 Problem Statement**

Studies conducted on geography education at secondary school level in our country have revealed that there are some problems in geography education. These problems cannot be considered separately from the general problems of school education. Educational policies, programs, crowded classes, teacher qualifications and training, lack of equipment and tools, problems with textbooks negatively affect geography education as in other courses. However, the source of the problems in geography education is the traditional approach to geography education rather than these problems (Turan, 2004). When we look at the studies conducted on the approaches applied in geography courses, it is seen that the most used methods from teaching geography subjects in primary school first grade social studies course to teaching geography courses in secondary education are narration and question-answer (Alim & Girgin, 2004; Bulut et al., 2003; Demirkaya, 2003; Turan, 2004). According to this approach, teaching is the transfer of knowledge from the teacher's notes to the students' notes without much logical effort (Bowles, 2006).

### **1.2. Research aims**

This study examines the effect of the hot seat strategy on female students' achievement and attitudes towards geography.

### 1.3.Hypotheses

**H1.** Treatment group will gain better scores in achievement in posttest compared to control group.

**H2.** Treatment group will gain better scores in attitudes towards geography in posttest compared to control group

## 2. Materials and Methods

### 2.1. Research design

The aim was to investigate the effect of the hot seat strategy on female students' achievement and attitudes towards geography. A quasi-experimental experiment was designed and implemented, specifically a pre test post test- control-group design with a quantitative approach, because the researcher wanted to establish possible causes and effects between dependent and independent variables.

### 2.2. Study Sample

The study sample consisted of 50 second middle school students, Bagdad, Iraq . All participants were second middle school students. The inclusion criteria were as follows : a) Always attending school, b) Willing to participate in the study , and c) Willing to attend and collaborate in the training sessions. The exclusion criteria were as follows: a)Unwilling to participate in the study training, and b) Irregular in his attendance at school. All students were girls. Two groups were randomly assigned: treatment (n=25 students), and control (n=25 students). They were similar in terms of gender, and socioeconomic level (  $p > 0.05$ ) (see table 1.).

**Table 1.** Characteristics of the students included in the Study

Variable	Treatment group		Control group		p
	n	%	N	%	
Gender					
Female	25	50.0	25	50.0	0.978
socioeconomic level					
Low	2	8	4	16	0.866
Medium	16	64	13	52	
High	7	28	8	32	

### 2.3.Data collection tools

*Geography achievement test (GAT).* Geography achievement test (GAT) was based on the first two units of Geography syllabus. It consists of 40 multiple choice question. The test was validated by experts prior to the actual data collection.

*Test of Geography-Related Attitudes.* The survey consisted of 20 items. The 20 items were categorized into attitudes about four areas of geography learning: enjoyment of geography (questions 1-5), career interest (questions 6-10), leisure interest (questions 11- 15), and interest in place (questions 16-20). The items were formatted using a five point Likert Scale ranging from 1, “Strongly Disagree” to 5, “Strongly Agree.” . In this study, the test had a coefficient alpha rating that ranged from 0.85 to 0.90.

#### **2.4. Statistical Analyses**

Descriptive statistics were used to provide a description of the study sample. The SPSS 21.0 package program was used for data analysis.  $P < 0.05$  was accepted as the significance level.

#### **2.5. Procedure**

##### **Control group (CG)**

Students in the CG received a one-off information session consisting of standard geography lessons, hot seat strategy, delivered by their classroom teacher. This group received no further contact until the end of the experiment.

##### **Intervention delivery**

The first two units are taught to the treatment group by their classroom teachers. A ten lessons course is presented to students. In hot seating strategy the students presented themselves in front of the class by sitting on the chair. The teacher divides the students into 5 groups, each group consisting of 5 students. Then the lesson material is divided into 5 paragraphs, according to the number of groups, where each group is responsible for reading one paragraph. After completing the reading process, each group put a question regarding the paragraph assigned to. Here, the teacher’s role is to revise the formulation of the students’ questions. Then, the researcher explains the lesson through discussion with the students and their interaction with the educational material, where the important points are recorded on the board by drawing an organizational chart, which is what the hot seat strategy requires. After completing the presentation of the lesson topic, the teacher sits on the chair to encourage the students. The students are asked to ask her questions. After that, a student sits on the hot chair, where she is chosen by the teacher to play her role in answering the students’ questions. This student has the right to answer only three questions, then she stands up and another student sits, and so on.

### 3. Results

#### Hypotheses testing

#### Tests of between-Subjects effects

Table 2. shows T-test results for the differences in posttest mean scores between the two groups in achievement. T. for achievement =11.55,  $p < 0.01$ (see figure 1 for clarification).

**Table 2 .** T-test results for the differences in posttest mean scores in achievement

Variables	Group	N	Mean	Std. deviation	T	Sig.
Achievement	Treat.	25	36.220	1.02	11.55	.000
	Cont.	25	26.112	1.40		

Note.: ETA Square = 0.801. High size effect (Cohen, 1988 suggested that =0.2 be considered a 'small' effect size, 0.5 represents a 'medium' effect size and 0.8 a 'large' effect size).

**Figure 1.** The differences in posttest mean scores in achievement

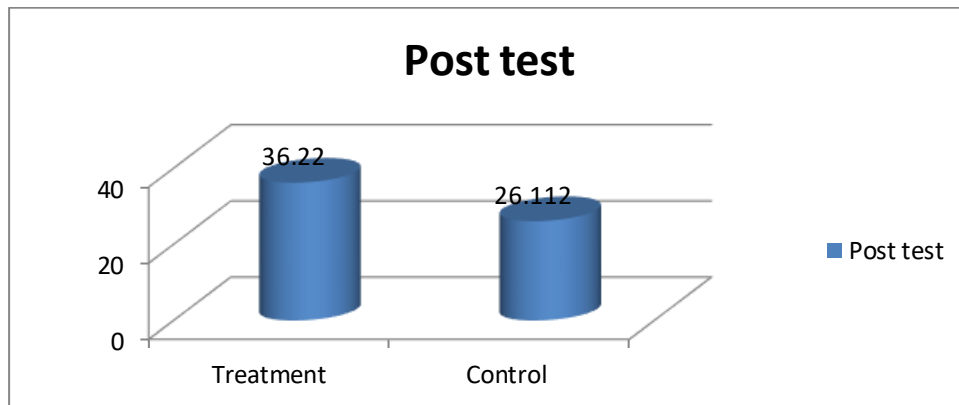


Table 3. shows T-test results for the differences in posttest mean scores between the two groups in attitudes towards geography. T for attitudes towards geography =13.33,  $p < 0.01$ (see figure 2 for clarification).

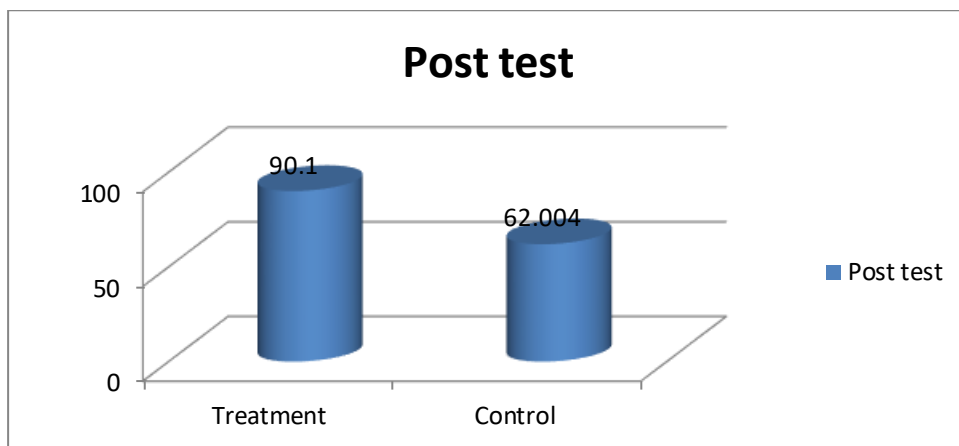
**Table 3 .** T-test results for the differences in posttest mean scores in attitudes towards geography

Variables	Group	N	Mean	Std. deviation	T	Sig.
Attitudes towards geography	Treat.	54	90.100	1.00	13.33	.000
	Cont.	50	62.004	1.12		

Note.: ETA Square = 0.810. High size effect (Cohen, 1988 suggested that =0.2 be considered a 'small' effect size, 0.5 represents a 'medium' effect size and 0.8 a 'large' effect size).

**Figure 2.** The differences in posttest mean scores in attitudes towards geography





#### 4. Discussion

The purpose of this study was to examine the effect of the hot seat strategy on female students' achievement and attitudes towards geography. According to the T-test analysis, there were differences between treatment and control groups in academic achievement as well as in attitudes towards geography in posttest mean scores in favor of the treatment group.

These results are consistent with those of Al-Zayoud (2021) who found that the hot seat strategy was effective for the experimental group. It was also found that there is a statistically significant difference between the average scores of the students of the experimental group who studied using the hot seat strategy and the students of the control group who studied using the traditional method on the total score of the post-achievement test, in favor of the experimental group that studied using the hot seat strategy.

This may be explained by the fact that one of the characteristics of the hot seat strategy is the ability to present aspects of the topic and identify its components, whether through the nature of the topic or by giving a drawing or a shape that shows its components, so that it creates a kind of suspense, excitement and enjoyment in studying Geography. It also enables discovering the existing relationships visually, which helps in facilitating the understanding and comprehension of the Geography units.

This may also be explained by the fact that the hot seat strategy is considered a response to the traditional trend in education, which is based on giving the student a passive role in the educational process as a recipient of information and nothing more. This strategy, which is one of the active learning strategies, seeks to activate the student's role in the educational process by increasing the level of her practical participation while giving the student a positive role inside the class, through constructing questions and exchanging ideas between students to consolidate the topic of the lesson, or when the teacher wants to go into more detail on one of the lesson topics and investigate the students' ideas about it.

These results are consistent with those of Abu Jabal (2021) who indicated that the strategy helped students to think, discuss and analyze, and gave them the freedom to express their opinions, linking situations that require thinking to their daily lives. The activities also helped students to create an atmosphere of positive interaction, which resulted in them feeling successful and developing their skills in asking questions and taking responsibility for their choices. It also increased students' motivation to learn and strive to achieve success.

Discussing situations related to the topics of the social studies curriculum, which stem from the environment surrounding them and which they touch in the reality they live, gave students a great ability to bear responsibility towards the environment in which they live, form healthy social relationships with their colleagues and accept them socially, and transform ideas from negative to positive. This led to them loving learning and cognitive openness in geography, which in turn contributed to developing their cognitive achievement.

What the "hot seat" strategy included and the new steps and situations it included for students had a great impact on increasing the ability to ask questions, answer them and understand them. The strategy keeps pace with everything new and modern in teaching methods; as it made students the focus of the teaching and learning processes by directing and answering questions, and making a self-effort by the student playing the role of the discussant in answering her colleagues' questions in an interactive dialogue and practicing observation and problem-solving processes. This is the opposite of the traditional method in which the teacher is the focus of the educational process, which

had a great impact on increasing students' enthusiasm, and thus increasing their achievement.

## 5. Limitations

The limitation of this study is the fact that it was conducted with secondary school students, and the results can only be generalized to the students of this age group. This study shows that the hot seat strategy can improve students' achievement and attitudes towards Geography. It is suggested to conduct qualitative and quantitative research designed to compare traditional and the hot seat strategy. Gender difference is not addressed. Future studies should integrate gender, because it is responsible for many of the choices made throughout life. Also, it would be influential to use a pretest-posttest follow-up experimental design.

## 6. Conclusion

The hot seat is an interactive strategy in which students practice speaking and listening activities. Each student gets a turn to sit in the hot seat in front of the other students in the class while the other students ask questions. The teacher's role is to guide and direct the students by giving them directions to focus on their questions. Through this strategy, students are able to formulate many different questions and the teacher corrects the students' questions.

**It is recommended** that further research is needed regarding the provision of the hot seat strategy as a method to students with a longer duration and more frequent.

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## أثر استراتيجيات التعلم في اتجاهات واتجاهات الأبحاث

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الدراسة

هدفت هذه الدراسة إلى البحث في تأثير استراتيجية المقعد الساخن على تحصيل الطالبات واتجاهاتهن نحو الجغرافية. وقد تم تصميم تجربة شبه تجريبية وتنفيذها، وتحديدًا تصميم مجموعة ضابطة قبلية وبعديّة بمنهج كمي. وقد تألفت عينة الدراسة من (50) طالبة من الصف الثاني المتوسط، في بغداد، العراق. ووفقاً لتحليل اختبار (ت)، كانت هناك فروق بين مجموعة المعالجة والمجموعة الضابطة في التحصيل الأكاديمي وكذلك في الاتجاهات نحو الجغرافية في متوسط درجات الاختبار البعدي لصالح مجموعة التجريبية. وهذا يوضح فعالية تدخل استراتيجية المقعد الساخن.

الكلمات المفتاحية: استراتيجية المقعد الساخن، الطالبات، التحصيل، الاتجاهات نحو الجغرافية