

Contextual Scaffolding in Secondary Geography Education: A Lesson Study of the Instruction of “The Middle East”

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Abstract: *The utilization of instructional scaffolding is a crucial element in the process of imparting novel knowledge or skills to students. This approach involves the teacher providing and modifying support for students in order to optimize their classroom participation and academic outcomes. The present study offers an examination of a seventh-grade geography lesson focused on the Middle East. The lesson employs contextual scaffolding, supported by visual aids, throughout various teaching processes such as lesson introduction, classroom inquiry, review, and summary.*

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JEROME Bruner, an American psychologist, introduced the term “scaffolding” in the field of education during the 1970s. The pedagogical strategy of instructional scaffolding is founded on Vygotsky’s zone of proximal development theory. This approach involves the teacher breaking down lessons into manageable segments and progressively withdrawing support as students demonstrate greater proficiency in comprehending and applying new concepts and information. As per the scaffolding theory, it is necessary for students to receive guidance and aid from teachers or other proficient individuals when they commence the process of acquiring a novel concept. However, it is imperative that such assistance be provided on a temporary basis and be adaptable. As the learning process advances, students’ reliance on the teacher is expected to diminish, and it is crucial to foster their self-sufficiency in learning (Huang, 2018). The nature of adult-child interactions bears resemblance to the process of scaffolding in construction, wherein the support is gradually dismantled as the building advances (Du & Yuan, 2021). Scaffolding-assisted teaching involves the provision of ample support and resources by the teacher to students during the initial stages of their learning process, with the aim of facilitating their comprehension of a given subject matter. Once students attain the expected level of proficiency, the teacher gradually reduces their involvement and support, allowing the learners to take charge of their learning (Coffman, 2022). Furthermore, empirical studies have indicated that the utilization of visual aids enhances the capacity to retain information (Watkiris, 1962). Empirical evidence suggests that incorporating visual demonstrations into teaching practices can enhance students’ comprehension and retention of essential concepts, surpassing the effectiveness of traditional lecture-based instruction. The use of visual aids, including but not limited to images, models, slideshows, and videos, has been found to be particularly efficacious in facilitating student learning. The present lesson study delves into the concept of contextual scaffolding as an instructional approach. This method involves the utilization of visual aids by the teacher to establish contexts for the subject matter, thereby facilitating the active engagement of students in classroom learning. Additionally, this approach aims to enhance the students’ ability to independently construct their own geographic knowledge structure.



Processes of Classroom Instruction in the Middle East Based on Contextual Scaffolding

Lesson Introduction Supported by Video Presentations

The teacher used multimedia equipment to play videos about conflicts, protests, and refugee camps, and then asked students to identify the locations of all of these events. Based on their prior knowledge of the Middle East, the majority of students were able to identify that the events were occurring there. Students were shown additional videos on conflicts, such as the Iran-Iraq War, Gulf War, Iraq War, and Israel-Palestine Conflicts. Students viewed these videos with a great deal of focus and interest. The teacher then inquired as to why the Middle East has historically been a geographical center. Why have individuals fought in ceaseless wars? This engaging, heuristic introduction to the lesson is intended to integrate students into the subject's contexts and inspire their motivation for further inquiry.

Classroom Inquiry along a Virtual Tour Route

The teacher presented a cartographic representation of the globe to the students, illustrating the Middle East's geographical location at the confluence of Asia, Africa, and Europe and its proximity to the Arabian Sea, the Red Sea, the Mediterranean Sea, the Black Sea, and the Caspian Sea. Considering its distinctive geographical location, the students were directed to embark on a tour of the Middle East.

The First Destination: Medina

The Islamic holy city of Medina is where the students saw some strange things happen. One of these was the fondness for white robes among the male residents. One of the colors that Arabs prefer is white. Most of their structures have a white aspect, and a male Arab traditionally wears a loose white robe with a white headscarf. The scenario with the "beds on housetops" is another intriguing one. The majority of traditional homes in the Middle East have flat roofs, and at night, people frequently sleep on the rooftops of these homes. The teacher then posed the following inquiry: Why do Arabs favor sleeping on roof tops and wearing white clothing? What kind of weather is most common in the Middle East? What are the characteristics of this climate type in terms of temperature and precipitation, using Medina as an example? Students were also given a climate classification map of the world (**Figure 1**) to aid in their analysis.

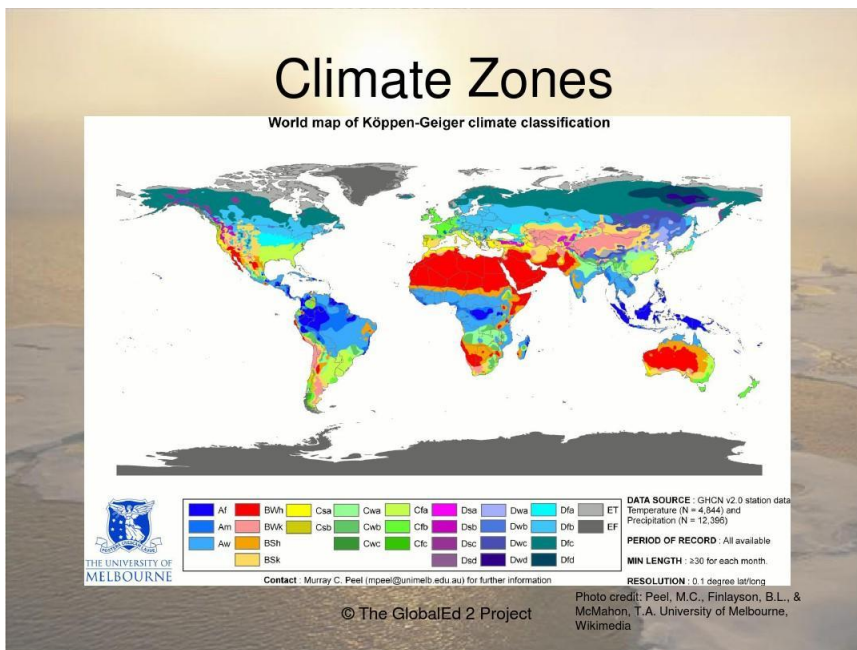


Figure 1. A World Map of Climate Classification.



Figure 2. A Picture of the Wailing Wall.

Through the implementation of concrete situations, relevant questioning, and effective visual aids, the teacher effectively fostered autonomous inquiry, independent thinking, and the efficient acquisition of geographical information among the students. Based on the cartographic representation, it was observed by the students that tropical desert climatic conditions are prevalent in most of the regions situated in the Middle East, encompassing the city of Medina. In regions characterized by elevated temperatures and minimal precipitation year-round, inhabitants tend to exhibit a preference for white clothing due to its high reflectivity against sunlight, thereby reducing heat transmission. Additionally, sleeping on rooftops is a common practice in such regions, as it affords protection from rain and a cooler environment during the night. The climatic attributes of the area result in a severe deficit of water and the ensuing competition for water resources, which is among the factors contributing to the disorder in the region.

The Second Destination: Jerusalem

The Wailing Wall served as the excursion's high point. The teacher described the history of the wall while displaying a picture of it to the class (**Figure 2**). David founded the Kingdom of Israel in the eleventh century BC, with Jerusalem as its capital. The Beit HaMikdash (commonly known as the First Temple) was constructed in the 10th century BC by Solomon, David's heir apparent, as a place of worship for Jehovah, the God of Judaism. The First Temple was destroyed during the Babylonian conquest in 586 BC, and more than 40,000 Jews—including craftsmen, priests, and members of the royal family—were captured and brought to Babylon as slaves. Jews returned to their own land after a half-century of exile, where they erected the Second Temple over the ruins of the First Temple. The temple was once again destroyed in the year 70, under the rule of the Roman Empire; most Jews were driven from their homes, and thousands were massacred. The Roman emperors erected a wall around the Second Temple's ruins. Jews were not permitted to visit their country more than once a year on the Sabbath until the Byzantine Empire. Many Jews arrived at the sacred location and sobbed against the wall. This is the reason this wall is known as the Wailing Wall.

Students were required to hold group talks about the following issues after “visiting the Wailing Wall”:

- What Jewish tradition can be connected to the image of the Wailing Wall?
- Why do Jews value the wall so highly?
- Do you believe that the Wailing Wall is a symbol of conflict as well as a historical and cultural wall? Justify your position.

- (Extension question: What other religions consider Jerusalem to be a holy city in addition to Judaism?)

In the extension phase, more details were provided regarding the joint declaration that Saudi Arabia and Iran signed on March 10, 2023, announcing that the two countries had accomplished a historic reconciliation. Students learned about Saudi Arabia's significance as a major nation among Sunnis from a video presentation, while Iran is the foremost nation for Shiites. Tensions between the two nations increased as a result of the numerous disagreements between the two factions regarding their standing and Islamic principles.

The student selected religious disputes as one of the causes of the unstable conditions in the Middle East based on their knowledge of Jerusalem's status as the holiest city for Islam, Judaism, and Christianity, as well as the intense rivalries that exist between various sects of Islam. The teacher effectively created the scaffolding for students to explore the historical and cultural causes of the current conflicts in the Middle East by providing background information on the Wailing Wall and the Saudi Arabia-Iran reconciliation. This is effective training on how to infer fundamental issues from phenomena.

The Third Destination: The Ghawar Oil Field

The teacher guided the students to the largest onshore oil field in the world, which Saudi Arabia discovered in the Persian Gulf Basin in 1948, using an image of the Ghawar oil field (**Figure 3**). Here, the students discovered yet another strange occurrence: oil is more affordable than water. The Middle East has a serious water deficit, but it also has large oil reserves, and oil extraction has long been the region's main industry.

Based on the oil production data provided by the teacher, the students ascertained the primary oil-producing nations in the Middle East and succinctly outlined the key features of their oil sector, which include substantial reserves, elevated yields, and massive exports. The oil export route map provided insight to students regarding the predominant transportation method of oil extracted from the Middle East, which is primarily conveyed via sea to regions such as East Asia, North America, and western Europe. The pivotal significance of the region's oil production in the advancement of the global economy, coupled with the substantial reliance of Arabian nations' economies on the oil industry, are fundamental factors that necessitate students' comprehension of the fact that the pursuit of oil has been a primary catalyst for the conflicts in the Middle East.

The Fourth Destination: Dubai



Figure 3. A Picture of the Ghawar Oil Field.



Figure 4. A Modern Landscape of Dubai

The teacher showed a photo of Dubai in the United Arab Emirates as the final stop on the voyage (**Figure 4**), which depicts a very different landscape from that of the traditional oil-producing regions in the area. Students received an introduction to Dubai's growth in the tourism, aviation, real estate, and financial services sectors, as well as the shift in Middle Eastern countries' attitudes regarding oil resources. Students were also inspired to consider the topic of sustainable development by discussions over whether the area

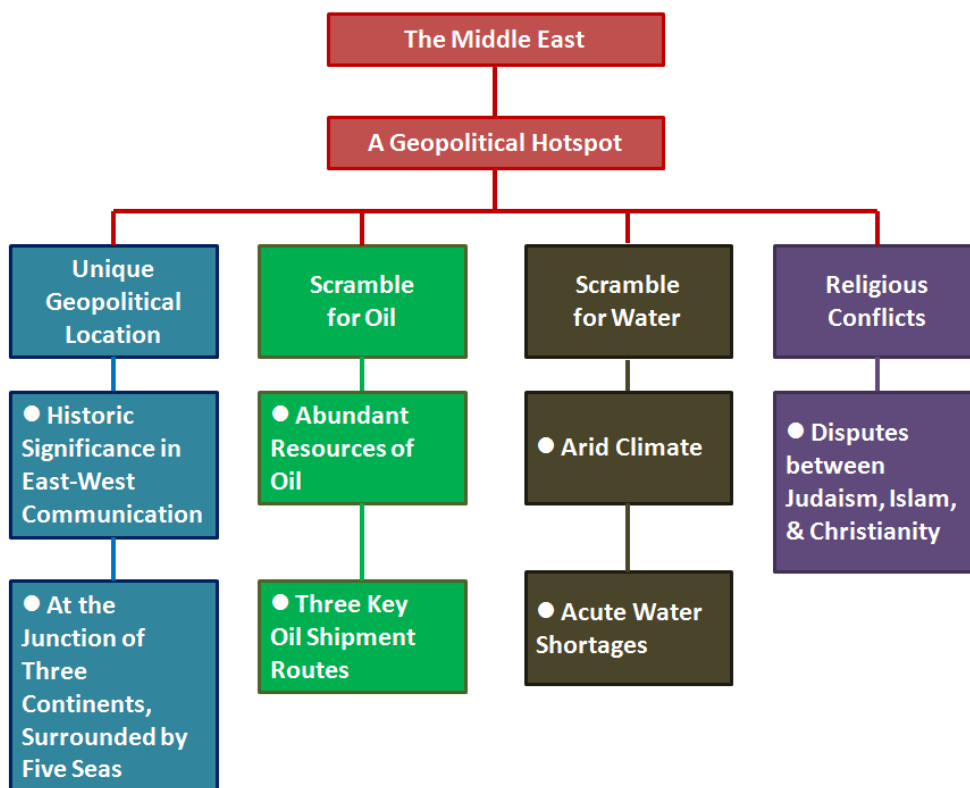


Figure 5. An Example of the Mind-Map by the Student.

should extend its exploitation of oil, an exhaustible resource, in order to gain more income.

Students' Review of Their Middle East Journey

Students were asked to conduct group discussions and give group presentations to highlight their key learning from the classroom inquiry activities. One illustration of their portrayal is shown below.

- The Middle East's crucial geopolitical relevance is determined by its unusual geographic location (at the meeting point of three continents and encircled by five seas).
- The dry, scorching environment of Medina and the ensuing paucity of water resources are indicated by the white robes and mattresses on the tops of the houses there.
- The Wailing Wall in Jerusalem is a representation of the regional disputes resulting from religious and cultural divisions.

- The Ghawar oil field is a sign of the oil wealth of the area. From ports in the Persian Gulf, the great bulk of crude oil is transported to the rest of the world along three primary routes.
- Dubai is a metaphor for the region's efforts at sustainable development and its economic diversification plan.

Each student was also obliged to individually produce a mind map reflecting their knowledge of the Middle East. As students advanced through the course, the teacher gradually withdrew support until, by the time they reached the mind-mapping stage, they were perfectly capable of doing the assignment on their own. Their mind maps are shown in **Figure 5**.

The Teacher's Reflections

The most recent curriculum program and the Double Reduction policy have introduced novel demands for effective pedagogy and student learning. The efficacy of classroom instruction is contingent upon the active participation of students. The incorporation of visual aids, such as maps, slides, and videos, has proven to be an effective strategy in generating students' interest in the subject matter during the course of this lesson. The immersive virtual journey through the Middle East has effectively fostered student engagement through dynamic exploration and profound educational experiences. The teacher gradually decreased the level of assistance provided to the students, allowing them to ultimately construct an independent mind map of the topic. The utilization of mind-mapping as a technique enabled students to independently organize novel ideas and establish their own cognitive framework, thereby fostering the development of structured thinking abilities. The inclusion of the recent occurrence of the "historic reconciliation between Saudi Arabia and Iran" was intended to foster students' consciousness of the importance of being attentive to real-world circumstances in addition to the prescribed course materials. The present instructional session constituted an initial trial in the execution of the novel curriculum program. The subject matter under consideration exhibits certain constraints. In order to enhance student agency during classroom inquiry, it is recommended that the teacher mandate students to independently generate questions based on the given contexts.

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