



Using Instructional Scaffolding in hybrid learning environment: A critical Review

Dina A. Abd El Bar¹, Mahmoud M. Mohaseb², Jehan M. El Bassuony³

¹Teacher of English Language

dinaayman144@gmail.com

²Assistant Professor of Curriculum & TEFL, Faculty of Education- Port Said University

mahmoud.mohamed@edu.psu.edu.eg

³Professor of Curriculum & TEFL, Faculty of Education- Port Said University

gehan.mahmoud@edu.psu.edu.eg

Abstract

Instructional Scaffolding is a constructive strategy that helps learners to do activities and tasks with the assistance or support of an expert. It is not confined only to the information that should be acquired; it also calls for social interaction between the learner and the expert. Thus, learning environments are one of the most significant responsibilities that teachers should develop to engage and motivate learners. One of these learning environments is hybrid learning environment. The paper addresses the instructional scaffolding strategies and the course plan of hybrid learning environment. This aim of the present paper is to provide an overview of a recent research on hybrid learning environment, instructional scaffolding and discuss the implications of the research for language instruction. The discussion presents definitions of instructional scaffolding, characteristics of instructional scaffolding, instructional scaffolding strategies, and features of instructional scaffolding. In addition, the paper highlights the definition of hybrid learning environment, the plan course of hybrid learning environment, and its role in relation to instructional scaffolding.

Keywords

Instructional scaffolding, hybrid learning environment.

Introduction

Many teachers of English language fail to deal with their students because of the misassumptions of the methodological process of teaching in classrooms. Hence, Thamer and Kareem (2018) mentioned that the concept of scaffolding is amply underpinned by theory and scientific research. Cognitive constructivism by Jean Piaget and social constructivism notion engendered by Lev Vygotsky were adopted. Generally, the crucial point of constructivism is that learners construct their learning or knowledge by adding new knowledge or skill to their previous schema.

Dagar and Yadav (2016, p.3) states that learners 's learning process is active process that takes place not by passive reception of epistemology but by the interaction not only between the mediator and knowledge but also by the transmission of the knowledge to another situation in gradual sequence from complex to simple process. "There is no such thing as knowledge out there, independent of the knower but only knowledge we construct for ourselves as we learn is the true knowledge".

Furthermore, Dhawan (2020, p.6) agrees that the sudden outbreak of the lethal and infectious disease COVID -19 has caused disruption in several aspects in the globe. This tragedy has affected the educational sector in the universe. As a result, all educational institutions were compelled to temporarily close. Hence, several researchers suggested a panacea in the teaching and learning process which is a shift to online learning in the time of the pandemic. Singh and Thurman (2019, p.302) defined online learning as "learning experiences in synchronous or asynchronous environments using different devices (e.g., mobile phones, laptops, etc.) with internet access. In these environments, students can be anywhere (independent) to learn and interact with instructors and other students". In other words, in online classrooms, the learning process is a student- centered in which the learners

depend on the utilization of online platforms which are called Learning Management Systems such as Blackboard and Moodle. These platforms allow the synchronous and asynchronous learning wherein Synchronous communication means that students attend live meetings and live chats and any use of technologies in the time of online class. Concerning asynchronous communication, it is related to e-mail and blogs and it allows the autonomy of the learner to learn with no place or time limits.

Definitions of instructional scaffolding

The concept of scaffolding was first coined by Wood, Burner and Ross in 1976. They defined scaffolding as the support which is given by the teacher or the parents (tutors) and allows the tutees to engage and gain the skill of problem solving (Spector and Merrill, 2014). Vygotsky, scaffolding is the role of andragogy in supplying the learners with guided practice to promote intersubjectivity and the ZPD to build upon the previous schema by giving feedback to the learners and transmit it in practical situations (Karatepe, 2012).

Ismail et al.(2015, p.3) points out that instructional scaffolding is characterized by three aspects that is contingency, fading and transfer of responsibility. Contingency indicates the appropriate assistance in accordance to the factors rely on the reactions of the learner, the goal of the teacher in the topic, the method of supporting and the time to intervene with assistance. Fading which concerns with receding of the support. It is thought that fading occurs to foster skill or knowledge to transfer responsibility by generating explanation sand interpretations through questions by scaffolding. Spector and Merrill (2014) report that some scholars believe that fading is not perquisite to promote the skill or knowledge as they consider scaffolds as "part of a distributed cognitive system", subsequently, these system needs ongoing diagnosis to transfer the responsibility. Thereby, the distributed cognitive

system includes tools and learners that share the system through maintaining the function of the system that if students are allowed to control their learning process.

Dennen (2009, p.815) highlights that instructional scaffolding can be defined as a metaphor to a conceptual structure that is utilized to get sufficient aid and accelerate learners reach their aim and is receded bit by bit as it is no longer demanded. Thus, the teacher highlights strengthens and weaknesses points of the learners in order to supply them with the tailored needs of the task through guided practices. Besides, the teacher is expected to be alert of the methods of contextualizing a language topic based on the learners' previous scientific knowledge.

Moreover, Pea (2004, p.425) stresses that instructional scaffolding is a temporary support that can help the learner to complete a task and can be reduced once the learner can perform it independently. Also, the amount of assistance provided relies on the range of difficulty of the task. Salyers (2014) assures that instructional scaffolding empowers learners to pace their learning process and enhances reinforcement. It also accommodates autonomy and self-assessment and allows the engagement of the peers with each other and with the teacher. Instructional scaffolding encompasses recognition of what the learner can perform, setting up the objectives, catering continuous assessment to pinpoint the needs of learning process, catering assisting performance for learners, the concern of oriented activities to reflect on modalities and internalization and generalization of the chunks after managing to be within the learners' grasp.

As technology makes its way to the entire world, the concept of scaffolding redefined in accordance with technological environment. According to Belland (2017, p.17) computer based scaffolding is the assistance through web-based to gain and master skills beyond the learners' capabilities. Therefore, the mediator factor here is the computer or the web as it

qualifies the learner to be more competent through accessing much information, think aloud technique, visual aids and active participation in discourse with the worldwide. In other words, the ZPD expands as a result of the availability of the links, videos, web pages and books.

Characteristics of instructional scaffolding

As scaffolding's nature is considered dynamic to tailor the task's scope and learners' ZPD, Vacca (2008, p.653) illustrates several characteristics of instructional scaffolding

1. Scaffolding provides clear directions: Instructional designers suggest step-by-step guidance as a means to illustrate what instructions the students shall fulfill to meet the requirements of the learning activity. Instructors attempt to anticipate the problems that may encounter the students by writing user-friendly guidance to lessen perplexity provide more clarifications and hasten students toward prolific learning.
2. Scaffolding clarifies purposes: Instructional Scaffolding maintains purpose and inducement in the primacy. Rather than displaying shallow school rituals like assignments, the scaffolded lesson or research project aspires to meaning, value and significance. Based upon the questioning technique, scaffolding helps in placing the whole issue's ideology in focus.
3. Scaffolding maintains students on task: learners can utilize their personal discretion to decide which path to choose within the designated structure without stranding. Each step is outlined broadly to help students move without fear of failure or confusion.
4. Scaffolding incorporates assessment and elucidates expectations: The scaffolded lessons provide paradigms that state the quality of work. Learners are demonstrated rubrics and standards that clarify the criteria of constituting the quality of work.

5. Scaffolding offers worthy sources to students: Learners are not skillful enough to decide the useful sources. As a result, Teachers are cautious of wasting time so they supply learners various valuable sources that speed up the learning process through focusing on interpretation of the information rather than searching for it.
6. Scaffolding lessens disappointment and surprise: Instructional designers examine every single step in the lesson to eliminate any difficulties or problems that may face the learners. They refine the lesson depending on the learners' new ideas and experience.
7. Scaffolding delivers efficiency: whilst the scaffolded lesson is done well to be efficient, it consumes much time and requires hard work to focus on the inquiry. However, when it is ready for trial, it assists learners to minimize the time consumed to complete a task.
8. Scaffolding inspires momentum: the channeling achieved the concept of scaffolding economizes time, effort and energy. As scaffolding denies the failure of learners and this reinforces motivation and self-regulation.

Instructional scaffolding strategies

Contemporary literature reports the types of scaffolding are teacher-student scaffolding (traditional scaffolding), Computer-based scaffolding, peer scaffolding. Cooper (2016) and Gonulal and Loewen (2018) state that teacher-student or traditional scaffolding has salient six types that applied in the classroom which are "modeling, bridging, contextualizing, schema building, re-presenting text and developing metacognition". In modeling, the teacher supplies the learners with model as a guide for the task in order to perform with same guidelines to achieve the goal of the task. In bridging, the teacher relates the topic to the lives of the learners to build up their previous experience. In contextualizing, one of the problems that face the learners of English as foreign language (EFL) is decontextualizing, however, teachers recoup this problem by utilizing verbal and non-verbal

assistance such as pictures, videos and analogies. In schema building, teachers help learners to recall the previous knowledge, build on it and connect it to new one for instance focusing on subhead lines, charts, titles and numbers. In re-presenting text, learners convert one genre to another like converting a novel to a poem or predicting what will happen at the end of the novel or changing the end of the novel to what they desire. In developing metacognition, teachers reinforce learners' autonomy and self-regulation by allowing them participating in challenging collaborative practices that stimulate their higher order thinking.

Amro (2019), Cagiltay (2006), and Ling and Harun (2014) agree that scaffolding taxonomies of the computer-based scaffolding are amply supported but the most common categories are "cognitive scaffolding, metacognitive (reflective) scaffolding, procedural scaffolding, context scaffolding, motivational scaffolding and conceptual (supportive or declarative) scaffolding ". In cognitive scaffolding, the learner grasps the subject matter of the curriculum and the details of problem solving. In metacognitive (reflective) scaffolding, learners are participating in the activity of reflection explicitly by articulating metacognitive process to manage their learning process as they reflect through questions that highlight the weak points and the options of evaluation process. Then, learners identify the best chosen problem solving and confirm the steps of problem solving. In procedural scaffolding, it is the assistance of the learners through utilizing the available tools and resources as guidelines for the completion of the task. In context scaffolding, learners use embedded functions of the oriented activities to navigate in the electronic environment by clicking on the mouse to scroll a learning task. In motivational scaffolding, teachers allow learners the development of their own capabilities and interest through applying their learning in the real environment. And lastly, in conceptual (supportive or declarative) scaffolding, it is the assistance through which learners create connections between the ideologies and reason complicated problems, besides, the predominant misconceptions.

Moreover, Cooper (2016, p.19) states that peer scaffolding is one of the prominent types of Instructional scaffolding. Peer scaffolding can be defined as the collaboration or assistance of peers to each other through catering instructional scaffolding from adults or experts to young learners. This type incarnates an interactive environment in the classroom. It also can be classified to: modeling, management of contingency, corrective ongoing feedback, instruction, inquiring and enrichment of cognition.

Instructional scaffolding and Language Education

Olson and Platt (2004) stated that to utilize scaffolding as a techniques in teaching foreign language, the teacher should provide an assisted activity to construct on the students' prior knowledge and internalize the new knowledge. These activities should only be one level higher than their actual developmental level so as to reach the level of potential development under the guidance of the teacher. The student, then, master the skill and the teacher decreases the support till it fades . In order to link the prior knowledge with the new ones, the teacher should guide the students through giving model behaviour and communicating verbally and non-verbally. The teacher can smooth the process of scaffolding through:

1. motivating the students' interests that relate to the task
2. breaking down the knowledge into chunks to be achieved easily by the task.
3. providing some guidance to help the students to achieve the goal.
4. Discern the difference between the actual developmental level and the potential developmental level if the child.
5. reduce frustration and model the performance of the activity which is desired.

Holding the same perspective, Thamer and Kareem (2018, p.14) outlined the literature the crucial elements of scaffolding that instructors can utilize as guidelines generally which are:

1. Pre-engagement with the learners and the curriculum : the educator takes into account the goals of the curriculum and the learners' needs, difficulties that may encounter, requirements and strategies
2. Finding a shared aim: this element calls for balance between the learners' opinions and the context of the classroom.
3. Specifying the requirements of the students: the educator must be knowledgeable of the curriculum and alert of the previous knowledge of the learners to compare between the learners' current level and their academic progress.
4. Presenting a firm support: this element may involve presenting supply to the learners through the use of modeling, cueing, asking for inquiries.
5. Keeping up pursuit of the aim: catering the amount of supply for the learners should fit to the task's level of difficulty. The educator pursues the established goal by asking questions and requiring clarifications to assist the learners' maintenance on the goal.
6. Offering feedback: there are two types of feedback which are manifesting the discrepancies between the learners' overall performance and the best solution of the task and demonstrating success so as to motivate the learners' academically.
7. Reducing the frustration: the educator has to create safe environment that encourages trial and error technique in order to make the learners attempt novel substitutions.
8. Supporting internalization and self-reliance: this indicates that the learners do not rely anymore on the educator's cues or extrinsic signals to complete a task. This act leads to the independency of the learners.

9. Determine what learners have known already: the educator has to recognize the skills and knowledge that are advanced, the background knowledge of the learners, and the current level of the present knowledge.
10. Start with what learners are able to do: when educators give learners the task, they should start with low skilled tasks that need only little support so learners do not fail.
11. Assist learners to depend on themselves when the teacher gives them specific task to do: the educators attempt not to trigger the learners' reliance on them. The degree of learner's independency varies from one to another. Thus, the educators have to help in the learners' autonomy.
12. Assist learners accomplish success speedily: learners make a great effort to educate so the continual failure may lead to frustration speedily. Therefore, the educators have to provide them with gradual assistance.
13. Specify the Suitable Time to Stop: exercising is remarkable as it makes learners grasp and put in application what they learned.
14. Assist learners to be one like another: learners want to be alike and accepted by their peers. Thus, if the educator gives the opportunity and support to all the learners' throughout the task, some learners will do their best to appear like their peers.

Features of Instructional scaffolding

Murray and McPherson (2006, p.140) mention that there are two phases of instructional scaffolding (1) “development of instructional plans to lead the students from what they already know to a deep understanding of new material”, and (2) “execution of the plans, wherein the instructor provides support to the students at every step of the learning process”.

Cheung (2014) identified that based on the work of Walqui (2006, p.165) the features of educational scaffolding as:

1. **Contextual support:** Learners are encouraged to explore through providing scaffolding in a safe challenging environment. This environment allows trial and error strategy where making mistakes is welcomed and considered a mean of the learning framework.
2. **Continuity:** One of the effective methods of learning is repeating the tasks yet with slight variations and connections towards each aspect of the issue till mastery occurs.
3. **Intersubjectivity:** Scaffolding assign learners and instructors to share their experiences, knowledge and expectations within a learning environment that shares practice and assistance.
4. **Contingency:** The procedures of Scaffolding a task relies on the learners' actions. As teachers determine how and when they intervene, the amount or level of assistance is offered to the learners based on their actions.in conducting a task.
5. **Hand over/ take over:** Modification of scaffolding takes place according to the learners' needs and interests over time and along the task. This modification allows the learners' variant engagement in the task. Consequently, teachers are cognizant of the learners' readiness to take over the task when they are capable of doing so.
6. **Flow:** Learners achieve equilibrium of the challanged skills and knowledge throughout the whole task by communication. Interactivity among participants happens in a natural way. Both teachers and learners synchronize with each other to concentrate on the completion of the task.

Hybrid Learning Environment

Everett Rogers is the most well-known researchers in the field of innovation as he formalized the Diffusion of Innovation theory. According to Mann (2006, p.39), the theory of

Rogers is one of the most remarkable frameworks of the technological adoption scheme. Rogers (1995,p.5) defines diffusion as “the process by which an innovation is communicated through certain channels over time among the members of a social system”. In other words, diffusion is a mean of communication through which new messages spread in the society. Moreover, the diffusion of innovation is a social process that takes place among people because of the spread of novel technology. In the diffusion of innovation theory, Rogers comprises the elements of diffusion which are innovation, communication channels, time, and the members of the social system

Mettis and Väljataga (2021, p.499) define the formation of hybrid learning space as the intertwinement of the learners in different physical settings or locations simultaneously with absolute online learning spaces. Moreover, Xiao et al.(2020, p.1204) elaborate the nature of hybrid learning spaces as " learning spaces that blur the boundary between physical and virtual environments where online learners and offline learners and instructors still can interact with each other and the course content can be delivered synchronously and asynchronously by using digital tools, mimicking real-time communication".

According to Iowa State University (2020, p.1), many researchers use the term "blended" and "hybrid" interchangeably. However, there is a difference between the two terms that relies primarily on the "proportion" of the two formats which are: traditional instruction or face to face sessions and online instruction sessions or instructional material in a given course. The hybrid instruction balances between the two formats (50/50), on the other hand, the blended instruction refers to traditional sessions mostly than to online sessions (25/75). Shams (2013, p.1588) also states that hybrid learning encompasses standard face to face meetings, offline activities, and computer- mediated learning.

Kimkong Heng and Koemhong Sol (2020, p.2) state that there are many terminologies that are associated with online learning including blended learning and hybrid learning. Some researchers believe that blended learning and hybrid learning can be used interchangeably; however, there are significant differences between the two terms as follows in figure 1:

Figure 1

Comparison between hybrid learning and blended learning

Key Criteria	Hybrid Learning	Blended Learning
Definition	<p>Shams (2013, p.1588) asserts that hybrid learning incorporates meetings in classroom ,offline tasks out of the class which bolster self-guided technique and online sessions. The technique occurs in virtual spaces and is utilized by the learners to direct their own learning process and it supports the independency of the learners in controlling the pace of the learning process.</p> <p>- Bennett et al (2020) pinpoint that hybrid learning is an approach that focus on the role of technology through using computers and the traditional instruction and the effect of balanced integration on learners' outcomes.</p> <p>Enoch (2016) clarifies that Missouri university considers the class is hybrid if the proportion of the online learning is 75 to 99 percent.</p>	<p>Shams (2013, p.1588) states that blended learning is the integration of traditional classes and the use of computers in the same educational environment.</p> <p>- Cohen et al (2020, p.1) declare that blended learning embeds several teaching modes that mingle without blurring any of these modes. In other words, these teaching modes do not used in a separate way from each other but they combine with each other.</p> <p>Enoch (2016) clarifies that Missouri university considers the class is blended if the proportion of the online learning is 30 to 74 percent.</p>

Planning a Hybrid course

According to Iowa State University (2020, p.9), planning any course is the main reason of its success. The instructor has to make sure that what s/he will ask the students to

do is convenient to the online learning environment. The same is true to the traditional sessions. Hence, each class should be appropriate to the medium it will be done in. The hardest part of teaching hybrid is figuring out how to integrate the two experiences to capitalize on and amplify each other. Thus, once the instructor is ready, s/he has to follow this guide:

1. ***Start at the Foundation:*** Hybrid course should have a course description, aims, and objectives. These delineate the entire picture of the course and development process.
2. ***Plan Assessments:*** The instructor determines the important assessments that will assist the students to master the objectives of the content. Assessments should be formative, summative and primary.
3. ***Create a course Map:*** The instructor then creates a map to lay out what the student's should learn at the beginning of the course to the end to achieve the ultimate goal.
4. ***Plan Activities:*** The instructor identifies the activities which capitalize on the strengths of both formats. These activities should be included in the course map. For instance, traditional sessions are good for nonverbal communication, diagnosing students' problems, brainstorming, providing immediate feedback, and role-play. On the contrary, online sessions are good for independency of learning, participation for shy students, collaboration and automatic grading.
5. ***Create /Find content:*** The instructor delineates most of his course because the development of online content consumes much time in design. Hence, s/he creates assignments, finds reliable sources, writes the syllabus, and determines where the convenient place of these in the course.
6. ***Ensure for Quality:*** Eventually, the instructor has a draft of the course completion. Then, the instructor edits and refines the course.

As for hybrid course design, Usova (2011, p.5) specifies three levels in which the instructor engages the students which are before, during, and after class as follows:

1. ***Start with learning goals:*** The instructor chooses first what he will teach, determines the desired results at the end of the course and unit, and identifies the standards of achieving the goals.
2. ***Create methods for students to learn before class:*** To accomplish amount of learning before class, the instructor should design the material online in a way that engage the students. This engagement before class will help in maximizing the efficiency of traditional meetings. To facilitate the learning process, the instructor assigns some activities so students familiarize the topics.
3. ***Create methods for students to learn during class:*** Traditional meetings promote learning. Consequently, the instructor builds on the prior knowledge of the students which they acquire in the pre-class stage through active interaction and engaging activities related to the aim of the instructor. These activities should be based on applying knowledge rather than memorizing it.
4. ***Create methods for students to learn after class:*** This stage implicates reflection and analysis of the accomplished results and outcomes through assessments. Students spend time online in this stage to complete an assignment or a quiz.
5. ***Utilize several forms of communication:*** In a hybrid course, the instructor relies on two formats of communication either in-class or online communication. As for computer mediated communication, the students send their questions concerning assignments through e-mail, chat applications, and blogs
6. ***Encourage collaboration:*** Collaboration has two types either group work or peer to peer. It helps in motivating students. Students collaborate to work on presentations or projects. In this process, students share their experience with each other, exchange notions because

of accessing great knowledge base, and bolster the effort of each other. This teaching environment provides the students with the soft skills of working in a team.

Role of hybrid Learning Environment in relation to Instructional Scaffolding

Ertmer and Newby (2013, p.55) declared that constructivism is a learning approach that anchors creating and constructing meaning from learner's experience. Constructivists postulate that the mind of the learner receives and filters the information in order to achieve reality. Also, there are two factors that influence leaning in constructivism theory which are the learner and the environment. They believe that learning occurs due to the interaction of the learner's actual experience with the environment. This interaction leads to the individuals' own production of the knowledge as an interpretation of their experience. As the knowledge emerges within the context of the situation, in which it relates to through activity. This indicates that learners construct, interpret and reorganize the information.

Additionally, Cirik et al. (2015, p.31) asserted that constructivism delineates the interrelationship between the teacher and the students in an nurturing learning environment. This learning environment focuses on student-centered approach. Student-centered learning environment concerns with encouraging the learners to construct their own meaning through discovering, discussing, and interpreting knowledge. This kind of environments helps in reflecting motivation for the knowledge and skills the learners gain. Such a learning environment bolsters learners to take responsibility of their own learning through utilizing some intellectual processes such as questioning and problem solving. The learning environment based on student-centered approach is not a competitive environment as it aims to triggering lifelong learning, creativity, and independency.

Conclusion

This paper was conducted to provide a theoretical overview on instructional scaffolding in a hybrid learning environment for EFL pupils. Instructional scaffolding is an active process that relies on providing assistance for the learners in order to do a specific task or activity. The assistance can be either through human resources such as a teacher, peer, or an expert or through digital devices such as computers. This requires an interactive learning environment such as hybrid learning environment. Hence, this paper showed the characteristics of instructional scaffolding, instructional scaffolding strategies, and the features of instructional scaffolding. Furthermore, learning environments help the learners to interact and engage in the pedagogical process. Such environment aids in the augmentation of the learners' competency, performance and academic success.

Several scopes are required to be explored within the empirical research to the use of instructional scaffolding in a hybrid environment. Few studies are concerned with the effect of instructional scaffolding on the performance of EFL learners. Accordingly, this paper endorses the significance of utilizing instructional scaffolding in a hybrid learning environment in developing the academic skills of EFL learners and tackling with the difficulties that facing the low achiever learners. Thus, the consecutive suggestions are recommended for further research:

1. Further research is required with different sample of learners at various educational stages to investigate the effectiveness of using instructional scaffolding in a hybrid environment to develop English critical listening skills.
2. Further research is needed to examine the effectiveness of instructional scaffolding in a hybrid environment to develop critical reading and critical writing skills.

3. Further research is needed to investigate the effectiveness of instructional scaffolding in a hybrid environment to develop persuasive critical speaking.
4. Further research is needed to study the effectiveness of instructional scaffolding in a hybrid environment to develop other English critical listening skills which are not encompassed in the present study.
5. Further research is needed to identify the effect of using hybrid learning environment and different strategies to develop EFL language skills.

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