

PEER SCAFFOLDING IN PROMOTING CRITICAL THINKING THROUGH ASYNCHRONOUS ONLINE DISCUSSION FORUM: THE THEORETICAL FRAMEWORK

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1.1 INTRODUCTION

Since 1960s, the use of technology in the educational field has been widespread. The internet, according to Becker (2001), has been playing a major role in enhancing educational technology, which has provided diverse opportunities to the education world. One of the opportunities is to teach and learn via online learning. This method has become popular since it encourages students to submit their ideas and opinions freely through discussions which is considered a powerful tool for developing pedagogical skills such as problem solving, critical thinking, collaboration and reflection.

Online discussion is seen as an effective place for instructors to coach and develop a deeper and more reflective learning among learners. This method of teaching is called ‘scaffolding’, which refers to the process by which a teacher or more knowledgeable peer assists a learner, so that the learner can solve a problem or accomplish a specific task (Sharma, & Hannafin, 2007). Baran and Correria (2009) concluded that the participating students perceived peer-facilitated discussions as more meaningful and interactive because they felt that their contributions have created a strong sense of community. Thus, this research explores the critical thinking developed by peer scaffolding patterns through an asynchronous online discussion forum (AODF).

1.2 PROBLEM STATEMENT

AODF have become an integral part of teaching and learning in higher education. However, several studies have identified problems related to online discussions, such as limited student participation, inadequate critical analysis of peers’ ideas, lack of motivation, commitment, and time, and failure to communicate effectively (Hewitt, 2005; Rourke & Anderson, 2002; Brooks & Jeong, 2006). Abawajy (2012) emphasized that AODF does not necessarily bring about effective interaction or collaborative

learning. For this reason, tutors and instructors play a critical role in an online discussion environment because their domination may result in an instructor-centered discussion, which suppresses students' active participations (Rovai, 2007). As "more-capable peers", learners will put more effort to help because they perceive that peers would not judge them the same way as their lecturers would (Wass, Harland & Mercer, 2011).

Scaffolding represents the support given to attain a goal. However, not all students prefer to have their instructors involved in an online discussion because such an involvement may be oppressive to certain students; thus, peer facilitation may be preferred (Fauske & Wade, 2003). Apart from being seen as the best way to create an effective learning environment, peer scaffolding can also automatically improve a learner's critical thinking. Harrington and Hathaway (1994) reasoned that peer facilitators would remove any power imbalances in the discussions, and they can also encourage freedom of expression, and give students the feeling that they own the discussions.

Therefore, this research will use peer scaffolding techniques to promoting critical thinking through AODF. This research will identify the dominant type of peer scaffolding among learners and to find the learner's level of critical thinking.

1.3 THEORETICAL FRAMEWORK

The theoretical framework of this research is presented in Figure 1.1, with scaffolding being the theoretical base of this study.

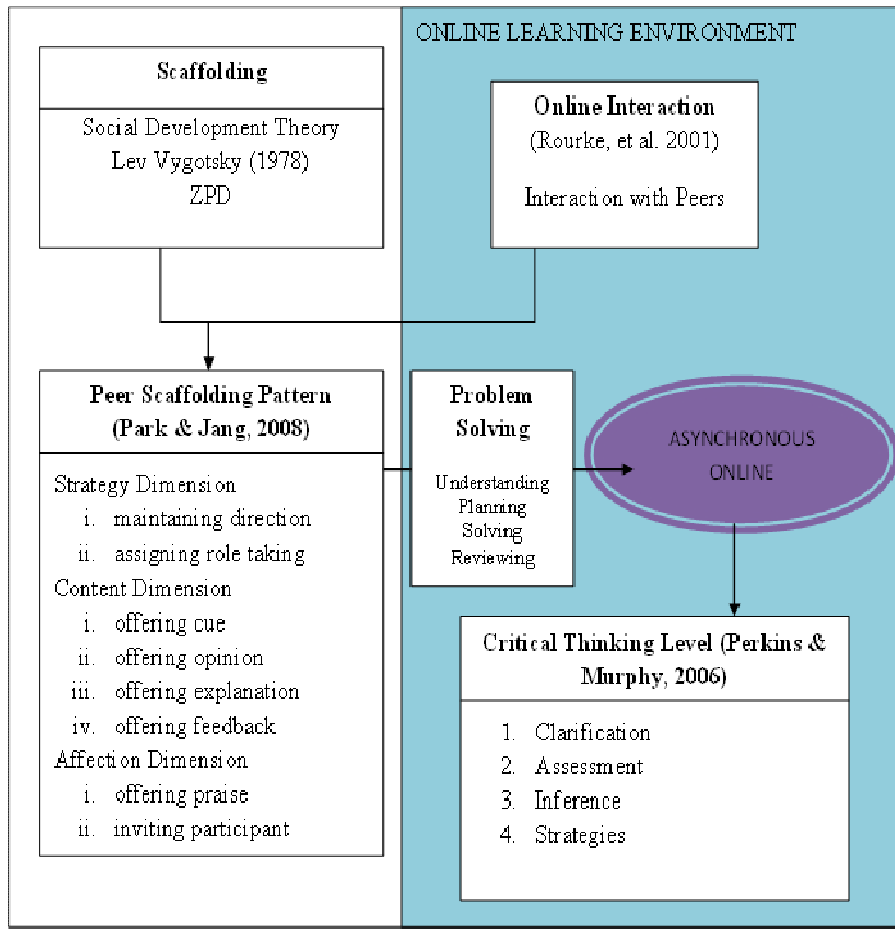


Figure 1.1 : Theoretical framework

Scaffolding was introduced in 1978 by Lev Vygotsky, who also introduced the Social Development Theory. To point out, the theory focuses on the basic theme of The Zone of Proximal Development (ZPD), which are (1) the distance between a student's ability to perform a task under an adult guidance and/or with peer collaboration, and (2) the student's ability to solve a problem independently.

Vygotsky believed that peer collaboration and other forms of peer-assisted teaching can enhance a student's learning (Velez et.al, 2010). Thus, peer scaffolding techniques are seen as better alternatives than instructional scaffolding because not all students prefer to have instructors involved in their online discussions.

Park and Jang (2008) for instance, have promoted a peer scaffolding pattern which consists of three main dimensions: strategy dimension, content dimension and affection dimension. Park and Jang (2008) then come out with a coding scheme that was formed in the presence of problem-solving processes in a web-based instruction. Hence, table 1.1 shows the peer scaffolding pattern by Park and Jang (2008).

Dimension	Types
Strategy	Maintaining direction
	Assigning role taking
Content	Offering cue
	Offering opinion
	Offering explanation
	Offering feedback
Affection	Offering praise
	Inviting participation

Table 1.1 : Peer scaffolding pattern

Xie, (2006) hypothesized that by interacting with peers through online collaboration; students will perform better in problem solving. Problem solving can be viewed as a learning outcome and as a process (Mayer & Wittrock, 1996). Park and Jang (2008) have presented four phases of a problem solving process. The four phases are understanding, planning, solving, and checking. Hence, these four phases of problem solving existed in order to find the pattern and types of peer scaffolding, and they are practiced during group problem solving activities.

Critical thinking affects all forms of communication; it can be practiced daily in an interaction and it is widely acknowledged that the level of the skill, along with problem solving ability, can be enhanced by online discussions. Perkins and Murphy (2006)

pointed out four levels of critical thinking: clarification, assessment, inference and strategies. These four levels are elaborated as follows:

- i. Clarification: All aspects of stating, clarifying, describing (but not explaining) or defining the issue being discussed.
- ii. Assessment: Evaluating few aspects of the debate: making judgments on a situation, proposing evidence for an argument or for links with other issues.
- iii. Inference: Showing connections among ideas: drawing appropriate conclusions by deduction or induction, generalizing, explaining (but not describing), and hypothesizing.
- iv. Strategies: Proposing, discussing, or evaluating possible actions.

Perkins and Murphy's (2006) models were highly recommended by researchers since they have been used to identify individual learners' engagement in critical thinking. Susan (2009), for example, has used the models to measure critical thinking process in an online discussion because the models focus more on cognitive behaviours. Corich (2011) also suggested using these

models, which focus on individual's engagement. Of the models that have been used to measure critical thinking, most have been applied to groups of participants to measure aggregate group performance; yet, very few studies have attempted to measure an individual's critical thinking activities (Corich, 2011). The models present a deeper concept of critical thinking processes and provide a clearer picture on how students are engaged.

1.4 CONCLUSION

Education systems nowadays has further itself from classroom context towards online learning. AODF provides an opportunity to facilitate a learner's critical thinking that can be promoted through the interaction. The online discussion can also be stated as a conducive environment for critical thinking through the process of interaction, reflection and feedback during teaching and learning process. However, studies have shown that learners do not consider facilitator and instructor as important in online environment but they preferred peers. As a conclusion, it is good to have another method in scaffolded learners such as peer scaffolding . Thus, this research is primarily about exploiting the potentials of peer scaffolding in generating the learner's critical thinking ability.

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