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Reengineering Knowledge & Creativity for Global Excellence

30 June 2022



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Reengineering Knowledge and Creativity for Global Excellence

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30 June 2022
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UNIVERSITI TEKNOLOGI MARA CAWANGAN KEDAH

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Foreword

The papers compiled in these e-proceedings are papers presented online at Technology, Science, Social Sciences and Humanities International Conference 2022 (TeSSHI 2022) held on 30 June 2022 at Universiti Teknologi MARA (UiTM) Cawangan Kedah, Kedah, Malaysia. With the theme, ***Reengineering Knowledge and Creativity for Global Excellence****,* the conference has brought together presenters of diverse background who shared their conceptual and empirical papers in broad areas that are subsumed under the fields of Technology, Science, Social Sciences and Humanities. These e-proceedings comprise current researches that were undertaken with the rigorous endeavour of knowledge enhancement to ensure that the world of academia will continue to flourish. It is thus hoped that readers will significantly benefit from knowledge contained in these proceedings.

TeSSHI 2022 and these e-proceedings would not have been possible without the great efforts from the presenters, and the generous support from the TeSSHI 2022 committee members and the Rector of UiTM Cawangan Kedah, Prof. Dr. Mohamad Abdullah Hemdi. A heartfelt gratitude is extended to all involved. It is hoped that these e-proceedings will be an impetus to stimulate futher studies and research that benefit the society at large.

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The Use of Scaffolding in Helping Students Complete Tasks That Require Critical Thinking Skills

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ABSTRACT

The teaching of critical thinking skills often fails due to inadequate instructions. One solution employed by many instructors is by teaching cognitive strategies. Students may be taught to use strategies such as generating questions to aid in reading comprehension or to use self talk prompts to help organize their writings. One way to teach the cognitive strategies is by using scaffolding. Scaffolding which is a form of support provided by teachers or instructors may help students to bridge the gap between their current abilities and their intended goals. It is particularly useful in teaching critical thinking skills. This paper discuss the use of scaffolding in helping students write critical evaluation of contemporary articles. It will look at how the scaffolding was used and how the lessons using scaffolding were conducted. It is hoped that findings from this discussion will be helpful for instructors in planning their lessons on the teaching of critical thinking skills.

Keywords: Critical thinking skills, scaffolding, reading and writing instructions.

INTRODUCTION

As early as 1991, Deborah Court posited that critical thinking skills need to be taught to youngsters. According to her, youngsters today face pressing global problems that demand solutions. There is a need to help students develop the vision and capacity to meet the challenges that they will face. They need to be encouraged and taught to question, analyze, generate creative solutions and work cooperatively (Court,1991). Browne and Meuti (1999) echo this sentiment when they stressed that critical thinking is the most often cited as the skills needed to be learned in post-secondary education.

Traditionally it is the role of universities to develop independent and critical thinkers This is becoming increasingly important due to the proliferation of information on social media, and the recent phenomenon of “fake news”. More than ever before young people need to be able to discriminate facts from opinions, evaluate and judge the credibility of evidence (Halpern, 2013). An effective strategy to foster such skills is through the development of critical thinking skills. Critical thinking is also increasingly sought after in the workplace.

An examination of 4.2 million job advertisements in Australia between 2012 and 2015 reveals that demand for employees who have critical thinking skills has risen by 158% (Foundation for Young Australians (FYA), 2016). In Malaysian, many fresh graduates are stunningly ill-prepared for the workforce, without realising it, as revealed by a panel of experts who took part in the recent STEM Forum, titled Graduates and Employment: Are They Ready from the Industry Perspective?, organised by Universiti Malaya STEM Centre. The group of panellists from the industry expressed their concerns that many Malaysian graduates are still unprepared to join the labour market.

This is because while industry players look for fresh recruits who possess critical thinking skills and breadth of knowledge that comes from understanding not only how to perform a given task, but the reasoning behind it, most feel that there is a gap in graduate skills, suggesting that universities do not necessarily provide enough opportunities for students to develop abilities critical to the labour market. Among the criteria found to be lacking in graduates are low proficiency in the English language and lack of soft skills including creativity, communication skills and critical thinking skills.

One of the panel members at the forum, Strand Aerospace Malaysia principal consultant Dr Rahmat Shazi, said he prepares human capital for high value industries, in aerospace industry as well as other sectors meant to be established or expanded in the country. Last year after his company interviewed 700 graduates, not only from local universities but also from across the globe which included candidates from Russia, Indonesia, and the United States, it came across multiple issues related to readiness to work. He said that most of the graduates could not deliver their message clearly due to to lack of high cognitive skills such as attention, memory, and logical reasoning (Preparing undergraduates.., 2019)

This is a bone of contention not only for the industries in Malaysia. Experts world over have agreed that skill in critical thinking is one cognitive outcome in the education process which is vital to develop undergraduate students' critical thinking to succeed at university level and to secure gainful employment upon graduation. However, results from previous research by Gelder (2005), Guest (2000) and Lipman (2003) have raised alarms regarding the low level of critical thinking skills displayed by undergraduate students in Higher Education Institutions (HEIs) in Western Europe and the United States of America. It is a global issue that even by the time they graduate, most HEIs students have not reached the higher levels of critical thinking that involve true reflective judgment.

The Teaching of Critical Thinking Skills at Tertiary Level in Malaysia

In the context of Malaysian Higher Education, the Ministry of Higher Education (MoHE) as the body that regulate HEIs in Malaysia has placed great prominence on transmitting critical thinking skills to undergraduate students. Critical thinking and problem-solving skills (CTPS) are among the core competencies in the Malaysian Soft Skills Scale (My3S) sets that Malaysian public university undergraduates need to master before graduation. Hence, it is the primary objectives in HEIs for undergraduates to develop critical thinking and problem-solving skills (Ministry of Higher Education Malaysia, 2006). Starting from July 2010, Public and Private Higher Education Institutions (IPTAs and IPTSs) across the country have administered the My3S to measure the level of soft skills mastery among undergraduate Malaysian students (Abdul Karim et al., 2012).

Consisting of 180 items The My3S instrument, which covers 7 aspects of soft skills, namely, critical thinking and problem solving, communications, teamwork, moral and professional ethics, leadership, lifelong learning and entrepreneurial skills, has to be administered three times to each student, that is, when the students first enter IPTAs, again during their mid-term, and finally, when they have completed their studies. A Malaysian nationwide study was administered through the My3S instrument to compare the students' soft skills in private and in public HEIs. It revealed consistent findings that students in both private and public HEIs scored second lowest on critical thinking and problem-solving skills with the scores for entrepreneurship skills being the lowest compared to other elements (Abdul Karim et al., 2012).

Other studies found similar findings. A study conducted by Siti Nazleen et.al. (2017) found that generally, the critical thinking ability of the final-year undergraduate students is at mediocre level.

The students display an average critical thinking ability across all four areas of analysis (cognitive complexity, thinking disposition, metacognition, and conscience). The higher order cognitive complexity component skills appeared to be the most problematic for the students. The study that involved 188 undergraduate final-year students from the Bachelor of Education program in the Faculty of Education, Universiti Teknologi Malaysia employed a quantitative survey design with descriptive data analyses to examine the 173 test items. They concluded that there is a need for Malaysian universities to continuously explore and design various innovative instructional interventions to enhance students' critical thinking skills especially those that can inculcate cognitive complexity ability.

Critical Thinking Instruction in the ESL Curricula

In order to foster critical thinking, a learner centered approach which provides the right learning environment and takes into consideration of factors that empowered the students need to be constructed. There is also a need to give voice to the students so that they may articulate their thought through assignment as well as class discussion. Case (2004), on the other hand, stressed on the importance of language in dissecting, analysing and understanding arguments. According to him elements of language in critical thinking includes concepts such as arguments validity, credibility, truth, soundness, inductive and deductive reasoning as well as various informal fallacies. Looking at this view, it is not surprising then, to see that critical thinking has found its way into the ESL pedagogy.

Davidson (1998) stressed that second language teacher should introduce students to aspects of critical thinking in their language lessons as failure to do so will result in students being unable to think critically when forced to do so in academic setting. Duff (2000) meanwhile posited that the language curriculum is the apt place for critical thinking incorporation as it considers both students' academic needs and interests. In addition, the language curriculum often transcends the boundaries between language and subject-matter course as it aims to develop students' academic language skills. As the language curriculum often includes various topics and themes, the language curriculum imbues the students with the critical thinking skills which enable them to express viewpoints and interact in discourse on diverse social issues.

This viewpoint is further supported with evidence that shows the effectiveness of teaching critical thinking in second language (ESL) as well as foreign language (EFL). A study carried out by Davidson and Dunham (1996) which followed the progress of 36 Japanese EFL college students showed that after receiving a year of Intensive English instructions with critical thinking instructions incorporated in the course, the students scored higher on Ennis-weir Critical Thinking Essay Test as opposed to the control group that receive the same EFL instructions minus the critical thinking instructions.

Problems in Teaching Critical Thinking

Though experts generally come to the consensus that critical thinking can be taught, the process of teaching is not an easy one. Hairuzila et al. (2009) attested that students' attitude are among the factors that hamper the teaching of the skills. Negative attitude of the students' stems from their lack of awareness of the importance of the skill; thus, leading to lack of attentiveness and interest in developing the said skills. Another hindrance arises from the teachers' lack of awareness of the various teaching methods that can be utilized to integrate the promotion of these skills in their lessons. Wan Shahrazad et al. (2008) stated that it is difficult to incorporate critical thinking skills into tertiary students' contemporary learning as students are used to being passive learners.

Despite the emphasis on critical thinking in higher education there is little evidence that such skills are taught in an explicit and systematic way at undergraduate level. Research in the US found that many university graduates lack the skills to distinguish facts from opinion or make clear written argument or objectively review conflicting reports (Coil et al., 2010). See's (2016) study of UK universities found that the first-year course modules of most disciplines do not explicitly teach

critical thinking, and that students were less likely to be taught critical thinking at university than at school. Schafersman (1991) also noted that it was the emphasis on the acquisition of basic knowledge that had led to the neglect of the role of university as an institution for developing critical thinkers.

Similarly, concern was expressed about the heavy reliance on rote memorization of decontextualized information in higher education in developing countries (Richmond, 2007). This is particularly so in some countries such as Japan and Korea where it is considered ill-mannered to question authorities, and where argumentation and questioning evidence is not encouraged. Richard Paul (2004) identified three main barriers to the attainment of critical thinking skills in HIEs. First, universities are not aware of their lack of fundamental concept of critical thinking. Second, they believe they knew what critical thinking is and are already teaching it to students. Third, lectures, rote memorisation and short-term learning habits are the norm in HIEs. Some believe that critical thinking is a single-subject discipline and thus teach critical thinking as logic or study skills, thus leading to situation where lecturers expect students to be able to analyse complex concepts; but lacking expertise on how to teach it.

Educators have dissenting views on whether critical thinking is a generic set of skills that can transfer across domains and that can be taught independent of subject or whether it is domain-specific (Moore, 2014) and should be taught explicitly. Though English classes are considered an apt place for critical thinking instructions, some concern arise as English language classes in developing countries often entail students reading a text and answering comprehension questions. They are seldom asked to evaluate the text or judge the credibility of the information. In many cases, the materials used in the language classroom do not encourage students to think critically. General critical thinking skills instruction involves training students to define arguments, evaluate reliability of sources, identify fallacies and assumptions, use inductive and deductive logic, synthesise information, make inferences, etc.

This approach has been evaluated in the most numbers of studies. Zelizer's (2013) study, for example, did not evaluate the effectiveness of critical thinking instruction. Instead, it compared two different approaches to teaching critical thinking (mixed instructional approach with an immersion approach). However, some of the lessons were taught by the same instructor, which might have resulted in diffusion of treatment. Participants who did not complete the post-test were excluded from analysis. This casts doubts on the results reliability as participants who dropped out from the study could be different from those who complied.

Another study by Mazer et al. (2007), was also a cluster randomized controlled trial where 18 clusters of 324 university students ranging from age 18 to 26 were randomly assigned to treatment conditions. Experimental students were explicitly taught critical thinking skills. The control students followed the routine course structure. Outcomes were measured using a customized critical thinking test developed by the researchers. The findings show that experimental students performed better than control students. This study could be rated more highly but because the outcome was measured using a researcher-developed test, it is possible that the teacher/researcher could have taught to the test, or the test could be intervention-related. Most of the research thus far conducted put emphasis on the approach and method employed by the instructor. The is still a dearth on research to evaluate the program itself with the aim to improve the program or retroactively to evaluate the benefits of the program with a decision-making orientation.

The Implementation of Critical Thinking in UiTM ESL Curricula

UiTM is one of the largest universities in Malaysia due to the existence of at least one branch campus in each state in the country has included explicit instruction of Critical Thinking across its curriculum. Since language curricula is seen as an apt place to place Critical Thinking Course, The Language Department has made Critical Thinking and Reasoning a compulsory course for its first semester degree students. The course is taught within the span of four weeks with face-to-face lecture of two hours conducted once a week. In total the students will have 28 hours of face-to-face instruction, accompanied with non-face to face lessons within three months and a half.

The course is designed to develop students' ability to read analytically and think critically. It focuses on the relationship between reading and critical thinking and provides students with a structured method for interpreting content and organisation of written texts. Tasks and activities suggested during the course are discipline-based. The Syllabus Content includes the following Critical Reading and Thinking Skills.

1. Interpreting the meaning of words, defining meanings of words using the dictionary, analyzing word structure, and using contextual clues.
2. Identifying main ideas and supporting details in texts, determining the topic of a paragraph, identify the stated main ideas and supporting details in texts, recognizing types of supporting details in texts, formulating the implied main ideas of texts.
3. Identifying the logical reasoning and assumptions used in texts, identify the underlying assumptions in texts, identify the logical reasoning in texts.
4. Determining author's purpose, tone, point of view (argument), intended audience and issue involved in an argument, determining the issue in a given argument.
5. Identifying and applying critical reading skills in reasoning through inferencing, drawing conclusions, and analyzing language when evaluating an argument, make inferences and draw conclusions.
6. Apply critical reading skills to evaluate arguments• Analyze and synthesis to evaluate the arguments in texts.
7. Construct argument based on the critical reading and reasoning learned

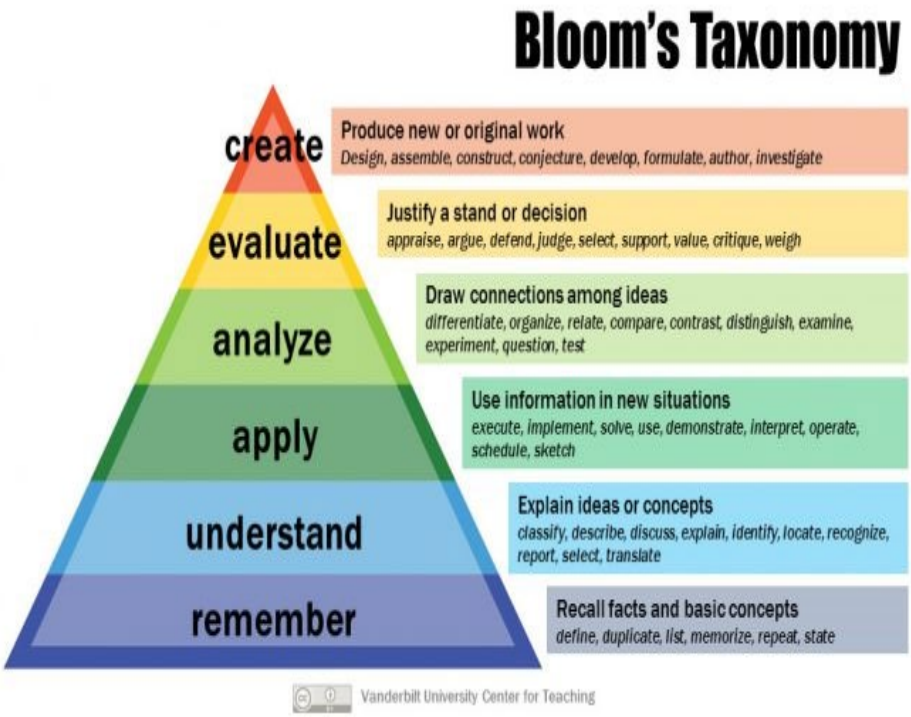


Figure 1: Bloom's Revised Taxanomy (2001)

When compared to Bloom's Revised Taxanomy, it is apparent that the course has been arranged in such a way that the lessons begin with the lower level of thinking skills and moving to higher order thinking skills in a gradual manner. It begins with the first two level, Remember and Understand whereby students are expected to define, interpret, and identify concepts or items. This is followed by the third and fourth level in which the students are required to apply and analyse arguments. Finally, the students are required to create by constructing argument and counterargument for a forum.

Throughout the course, the students are given three assessments to gauge whether they manage to master the critical thinking and reasoning skills explicitly taught about the course. The first assessment is a Test. The test requires students to answer 12 questions based on a given text (approximately 1000-1200 words in length) that is pitched at higher Intermediate to advanced level. It is either expository or argumentative in nature and deals with a contemporary issue. Students are required to determine the meaning of words from context; identify the topic and the main ideas (stated and implied); analyse the supporting details, the types of reasoning and the assumptions, as well as make inferences and draw conclusions.

Secondly, the students are assessed through a Written Article Analysis The assignment involves pair work where students analyse a given text (approximately 700-900 words in length) that is argumentative in nature and deals with a contemporary issue. The text is pitched at higher intermediate to advanced level and is assigned by the lecturer. The type-written critical analysis of the article must be approximately 600-800 words. Students are required to identify the issue and the writer's argument and discuss the tone, the purpose, the intended audience, assumptions, inferences, and conclusions involved in the reasoning as well as the evaluate the validity, credibility, and quality of the support

Finally, the students are assessed through a Forum Discussion. The forum involving 4 to 6 panel members requires students to participate in discussion on a topic. It involves applying critical reading skills from articles read to support panel member's point of view. It is pitched at higher intermediate to advanced level. It is argumentative in nature and deals with a contemporary issue. Students are required to construct their argument on a topic and support their argument using articles they have researched. Members of the panel forum are required to react to each other's points and present their counterargument as well as their own views.

Students generally face difficulty in completing the tasks that are assigned to them especially for the second assignment 'Written Article Analysis'. They are usually at lost on the elements that they need to identify in the articles assigned to them. They are also often unsure on how to write the sentences to convey their critical evaluation of the given articles. To overcome this problem, the instructors decided to provide scaffolding to the students which the instructors believe would be greatly helpful in aiding them with task completion.

WHAT IS SCAFFOLDING AND HOW IT IS USED IN THE CLASSROOM

Scaffolding is a method in which the teacher supports a student to work just beyond the level he could achieve on his own. Scaffolding has been praised for its ability to engage most learners. When the learning is scaffolded students are constantly building on prior knowledge and forming associations among new information, concepts, and language acquisition. Additionally, scaffolding presents opportunities for students to be successful before they move into unfamiliar territory. This type of instruction minimizes failure, which decreases frustration, especially for students acquiring a new language.

What is "Scaffolding"?

Scaffolding theory was first introduced in the late 1950s by Jerome Bruner, a cognitive psychologist. He used the term to describe young children's oral language acquisition. As young children first learning to speak a language, their parents and caregivers provide informal frameworks that facilitate the children's learning. The term 'scaffolding' was originally used by Bruner as a metaphor for depicting the form and quality of the effective intervention by a 'learned' person in the learning of another person:

> *'If the child is enabled to advance by being under the tutelage of an adult or a more competent peer, then the tutor or the aiding peer serves the learner as a vicarious form of consciousness until such time as the learner is able to master his own action through his own consciousness and control. When the child achieves that conscious control over a new function or conceptual system, it is then that he is able to use it as a tool. Up to that point the tutor in effect performs the critical function of 'scaffolding' the learning task to make it possible for the child, in Vygotsky's words, to internalize external knowledge and convert it into a tool for conscious control.'*
>
> *(Bruner, 1985, pp. 24-25)*

In addition, Bruner relates the term 'scaffolding' to Vygotsky's concept of 'the zone of proximal development' which Vygotsky describes as

> '*the difference between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers'. (Vygotsky, 1978, p. 86)*

Bruner uses the metaphor of 'scaffolding' to represent the special quality of this 'guidance' or 'collaboration'. Though its source is child psychology, the metaphor has become adopted in 'language in education' circles because of its emphasis on the role of language – and especially spoken language – in children's learning

Whereas Psychologist Lev Vygotsky called this area the "zone of proximal development." As the student becomes more competent, the support is gradually removed until the student is able to perform the task without assistance.

A concise but accurate definition of instructional scaffolding is "a teaching method that helps students learn more by working with a teacher" to enhance learning and assist in the mastery of skills and tasks. The teacher provides the students with supports that build on their knowledge and experiences as they're learning new skills. As the students master the assigned skills or tasks, the teacher gradually removes the supports.

Hence, the benefits of using scaffolding are numerous. Scaffolds help students build on prior knowledge and internalize new information. The goal of the educator when using the scaffolding teaching strategy is for the student to become an independent and self-regulating learner and problem solver.

Scaffolding in the classroom

Scaffolding supports learners with diverse needs, providing opportunities for success and independence. By planning scaffolding strategies into lessons, we create meaningful learning opportunities for all students. The benefits of scaffolding extend beyond the targeted student group and lesson, making this an important skill for all of us as educators and future educators to develop and utilize in our daily routines.

In addition, scaffolding in the classroom consists of helpful interactions between the teacher and the student that enable the student to do something beyond what he could do independently. A scaffold is a temporary framework that is put up for support and access to meaning and is taken away when the student feels success and masters tasks, concepts, and, in this case, language acquisition.

From a sociocultural perspective, research shows that L1 enables learners to work effectively in the zone of proximal development (ZPD) and the role it plays in the production of L2 particularly in peer work. For example, Anton and De Camila's 1999) study on collaborative writing tasks found that L1 moved learners through their zone of proximal development and played a strategic cognitive role in scaffolding. This view was also supported by Wells (1999) and Morahan (2010) that the use of L1 allows students to work within their ZPD, as proposed by Vygotsky (2010) further maintained that using L1 occasionally with L2 in pair and group work may help students cognitively process a task at a higher level than only in the target language.

Moreover, scaffolding techniques when used strategically and correctly does take time, but it is well worth it. Through scaffolding, English Language Learners are given the opportunity.

Some benefits of scaffolded instruction:

- Students experience a supportive learning environment,
- Students feel free to ask questions, provide feedback, and support their peers
- Teachers become facilitators of knowledge rather than content "experts"
- Students take a more active role in learning
- Students can take ownership of the learning and their classroom as a community of learners.

When planning to meet the needs of English Language students we might consider incorporating two overarching types of scaffolds:

1. Verbal Scaffolds

How information is verbally presented or explained to the students during instruction. Here are ways to provide verbal scaffolds:

- Model the "think-a-loud"
- Slow your speech and enunciate
- Reinforce contextual definitions
- Simplify questions
- Engage in read-a-louds in which you model correct pronunciations and prosody

2. Procedural Scaffolds

Tools and resources to support the students as they gain access to the learning. Here are ways to provide procedural scaffolds:

- Provide explicit modelling through visuals, gestures, and realia
- Allow for visual tools (organizers) as students manipulate information
- Use wait-time when asking questions to give all students an opportunity to respond
- Provide discussion prompts (sentence frames) to support discussions
- Allow students to collaborate with other students often as they discuss the learning

SCAFFOLDING IN WRITING

The concept of scaffolding in teaching writing comes from Zone of Proximal Development (ZPD), a concept introduced by Vygotsky. ZPD refers to the difference between what a learner can do without assistance and what a learner can achieve with guidance and collaboration with more capable peers.

Cazden (1979) believed that the use of scaffolding instruction in all disciplines was very helpful for the learners because it can inspire students to be more motivated in learning and boost the spirit of working cooperatively with each other. The scaffolding technique promotes students to acquire knowledge independently where they can eventually manage to cross the ZPD and further develop their knowledge.

The teacher plays the role of a supporter and provides guidance in ZPD so that the student can eventually be able to work independently and create new ZPD. In using the scaffolding techniques, the teacher focuses on cultivating the student's learning abilities bridging the gap between what they already know and what new knowledge they can add.

Therefore, this scaffolding technique would be able to help learners to improve their writing skill. Writing is among the hardest skill to master as one need to have a good foundation of the language and flair in writing. Thus, by applying this method it not only can help students to improve their writing skill but also promotes creativity.

Previous Studies

A few studies conducted on using the scaffolding technique on writing skill showed positive results, among them is research conducted by Belland (2007) who found that this technique facilitate students building critical thinking skills and enhance creativity in writing. He used problem-based learning approach and pair it with scaffolding to assist students with low proficiency to read and write. Another study conducted by Veeramuthu (2011), has shown that students writing skills had improved. The students showed progress in writing complete and complex sentences, less errors in spelling and punctuation. Students were also showing improvement in grammatical skills and they managed to link ideas to produce a complete piece of writing.

According to Zhou (2021) there are five steps of scaffolding in teaching writing in class. Firstly, the teachers need to consider the students' existing cognitive level to properly building up the learning scaffold suitable for them. This includes the teacher giving explanation and demonstration. This is then followed by providing writing skill scaffolding to the students where the teachers need to consider the students' existing language ability as well as thinking ability combining it with the new knowledge. By providing students with sample sentence structures at the word-level and sentence-level, it will assist students in their writing.

Secondly, teachers should create an interesting learning environment which combine audio-visual teaching materials and students thinking ability to enhance their learning experience. Next, teachers should let the students to work independently and think and write the first draft on their own by using the samples of words, phrases and sentences provided by the teacher in the first stage. Teachers can guide and assist students if necessary.

The fourth step is after the students are done with their exploration and writing individually, the teachers can practice cooperative learning techniques where students can work together with their friends to improve their writing. Here, they can discuss with their friends and help each other with their individual strength complete their writing task. Lastly, instead of the teachers being the only one giving the input the students will be asked to evaluate each other and discuss their strength and weaknesses so that they can learn from each other.

SCAFFOLDING IN CRITICAL THINKING AND ITS IMPLEMENTATION IN THE CLASSROOM

Critical thinking is an integral part of today's education as students are required to be able to understand an issue and later express their arguments or thoughts in a clear way. Usually, students need to express their viewpoint of an article that they have read and probably need to proceed with an evaluation on the worth of the arguments inside the article. According to Facione (2015), the way we approach a problem, question or even an issue is what critical thinking entails. If possible, we would also like to know about the truth of the issue and thus, critical thinking is the fastest gateway to the truth.

In teaching the critical thinking skills in our institution, scaffolding has been used to guide the students in preparing for their assignment which is a type of evaluation or critique over an existing persuasive article. Scaffolding was originally proposed by Vygotsky (1978) when a certain kind of support was given to students that works with their "zones of proximal development" (ZPD) which helps and supports them to achieve beyond what they originally can. Therefore, in preparing the

students to finish their supposed critique, they will be given some supports to help them with the task since the task might be slightly challenging for them. This is also aligned with Puntambekar and Hubscher (2005) that claim that scaffolding technique functions as a tool to help students do difficult tasks that might otherwise be beyond their abilities.

While helping the students prepare for their assignment of evaluating an article, the instructor might help by supplying them with suitable expressions that can used to describe the evaluation. The students involved are undergraduate students that may have just finished schools or even diploma from the same institution. They are relatively new to this type of assignment that require them to discuss in-depth of the article's arguments. By supplying them with expressions that they can use to elaborate their evaluation of the article, the students are somehow guided to achieve what is needed by the assignment. As Ellis and Larkin proposed in 1998, the scaffolding takes place when the instructor first tells and models how the task can be done and later the students will join in to perform the same task. Scaffolding sets a model that the students can follow to start with their assignment but after a while, the initial guidance ends and students should be able to work independently. This is in line with van Lier's claim (2004, as cited by Wilson & Deveraux, 2014) that the learner will become autonomous after they received the guidance and are able to do next task on their own.

Another approach used is by showing them some samples of previous written task. This is also to give them some guidance in how they can efficiently evaluate the article and write the critique. The samples given will also let them know of how they can construct their possible sentence structures as well as to see the essay's final outlook. Once they start to write the essay, the instructor will remove the samples and the students will start to construct their own arguments to complete the task. As Wood et.al (1976, as cited in Browne et.al) mentioned, once the scaffolding had provided the students with some guide, it will eventually be removed and the students will be able to do it more than before because of the use of the scaffold earlier.

CONCLUSION

The instructors are generally positive in the use of scaffolding in helping students to complete tasks that require critical thinking skills. They are also confident that students greatly benefit from the scaffolding provided to them. However, to ensure the effectiveness of the methods employed, there is a need for proper research to be conducted. Experimental research, utilizing scaffolding as an approach, will be able to determine the effectiveness of the usage. Researcher also should determine whether students are receptive to the use of scaffolding as it may work in reverse by making students feel that their freedom of expression is curtailed when scaffolding is provided.

REFERENCES

Abdul Karim, A. M., Abdullah, N., Abdul Rahman, A. M., Noah, S. M., Wan Jaafar, W. M., Othman, J., Said, H. (2012). A nationwide comparative study between private and public university students' soft skills. *Asia Pacific Education Review*, 13(3), 541–548. http://doi.org/ 10.1007/s12564-012-9205-1

Atkinson, D. (1987). The mother tongue in the classroom: a neglected resource? *ELT journa*l 41(4): 241-247.

Atkinson, D. (1993). *Teaching monolingual classes*. Longman London

Browne, M. Neil, And Michael D. Meuti. "Teaching How To Teach Critical Thinking." *College Student Journal*, vol. 33, no. 2, 1999, p. 162. Accessed 21 July 2020.

Bruner, J. S. (1975). From communication to language: A psychological perspective. *Cognition*, 3, 255–287. https://doi.org/10.1016/0010-0277(74)90012-2

Court, D. (1991). Teaching critical thinking: What do we know? *The Social Studies* 82(3),115-119

Duff, A. (2000). Learning styles measurement: The revised approaches to study inventory. *Bristol Business School Teaching and Research Review*, 3.

Ellis, E. S., & Larkin, M. J. (1998). Strategic instruction for adolescents with learning disabilities. In Larkin, M. J. (2002). *Using scaffolded instruction to optimize learning*. Arlington, VA: ERIC Clearinghouse on Disabilities and Gifted Education.

Facione, P. A. (2011). Critical thinking: What it is and why it counts. *Insight assessment*, *2007*(1), 1-23

Fitzpatrick, J., Sanders, J., & Worthen, B. (2011). *Program evaluation: Alternative approaches and practical guidelines* (4th Ed.). New York: Allyn & Bacon. Canadian Publisher: Pearson. ISBN: 978-0-205-57935-8

Foundation of Young Australians. (2016). *THE NEW BASICS: Big data reveals the skills young people need for the New Work Order*. Retrieved from https://www.fya.org.au/wp-content/uploads/2016/04/The-New-Basics_Update_Web.pdf

Gelder, T. Van. (2005). Teaching Critical Thinking: Some Lessons From *Cognitive Science. College Teaching*, 53(1), 41–48. http://doi.org/10.3200/CTCH.53.1.41-48

Guest, K. (2000). Introducing Critical Thinking to “Non-standard” Entry Students. The Use of a Catalyst to Spark Debate. *Teaching in Higher Education*, 5(3), 289–299. http://doi.org/ 10.1080/713699139

Halpern, D. F. (2013). *Thought and knowledge: An introduction to critical thinking (5th ed.)*. New York, NY: Psychology Press.

Lipman, M. (2003). *Thinking in Education (2nd ed.)*. Cambridge University Press.

Ministry of Education. (2004). *The Development of Education: National Report of Malaysia*. Retrieved February 21, 2016, from http://www.ibe.unesco.org/International/ICE47/English/ Natreps/reports/malaysia.pdf

Ministry of Higher Education Malaysia. (2006). *Modul pembangunan kemahiran insaniah (soft skills) untuk Institusi Pengajian Tinggi Malaysia*. Serdang: Penerbit Universiti Putra Malaysia.

Morahan, M. (2010). *The Use of Students' First Language (L1) in the Second Language (L2) Classroom*. Retrieved July2

Puntambekar,S. & Hubscher, R.(2005). *Tools for scaffolding students in a complex learning environment.* In Browne, L., Hough, M., & Schwab, K. (2009). Scaffolding: A promising approach to fostering critical thinking. *SCHOLE: A Journal of Leisure Studies and Recreation Education*, *24*(1), 114-119.

Preparing undergraduates for the workplace (2019) *News Straits Times Education*. June 19, 2019. Retrieved from https://www.nst.com.my/education/2019/06/497514/preparing-undergraduates-workplace

Stufflebeam, D. (2003). The CIPP model of evaluation. In T. Kellaghan, D. Stufflebeam & L. Wingate (Eds.), *Springer international handbooks of education: International handbook of educational evaluation*. Retrieved from http://www.credoreference.com.ezproxy.lib.ucalgary.ca

Stufflebeam, DL & Stinkfield, AJ (2007) *Evaluation, theory, model and application*, in, Jossey Bass, California, USA

Siti Nazleen, A.R., Akbariah, M.M., Baharuddin, A., & Zaidatun, T. (2017) *Assessing Critical Thinking Skills Of Faculty Of Education Undergraduate Students With Mactiv4* (Malaysian Critical Thinking Instrument - Version 4) Man In India, 97 (17) : 105-119

Van Lier, L. (2004).*The ecology and semiotics of language learning: A sociocultural approach*. In Wilson, K., & Devereux, L. (2014). Scaffolding theory: High challenge, high support in Academic Language and Learning (ALL) contexts. *Journal of Academic Language and Learning*, *8*(3), A91-A100.

Veeramuthu, A., Veerappan, L., Suan, W.A., dan Sulaiman, T. (2011). *The effect scaffolding technique in journal writing among the second language learners*. Journal of language Teaching and Research.

Vygotsky. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Boston: Harvard University Press.

Wood, D., Bruner,J.S. & Ross, G. (1976). *The role of tutoring in problem solving*. In Browne, L., Hough, M., & Schwab, K. (2009). Scaffolding: A promising approach to fostering critical thinking. *SCHOLE: A Journal of Leisure Studies and Recreation Education*, *24*(1), 114-119.

Zhou, Q. (2021). The Use of Scaffolding Theory in the Teaching of Writing. *Journal of Higher Education Research*. China West Normal University, Nanchong 637000, Sichuan, China DOI: 10.32629/jher.v2i6.583.