

Applicability of Constructivist-Oriented Teaching in the Process of Educational Transformation in Malaysia

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ABSTRACT

The education industry is an important sector that contributes to the development of a country. Educators and students are among the key players who are important and should be given priority in the education industry. Thus, to explore this situation, concept papers related to aspects of the learning environment covering the applicability of constructivist - oriented teaching in the process of educational transformation in Malaysia are given emphasis by researchers. This paper emphasizes the literature review of previous researchers in providing an overview related to the development of constructivist-oriented teaching among educators which ultimately opens space for readers to build hypotheses to continue research in the future.

Keyword: *Constructivist-oriented teaching; social constructivism theory; education; critical skill*

INTRODUCTION

Education system is the pillar for the development of a country (Çıkrıkçı,2020; Suprpto *et al.*, 2017). It is viewed as an aspect that must move in accordance with economic transformation by creating a high-quality education that includes infusion of 21st century skills (Mayrhofer, 2019; Raiyn, 2016; Hopson *et al.*, 2001). The skills must then be taught to all generations whether it is the new or the old generation in hope to encourage economic spurt as well as to create a prosper country (Abdullah & Ishak, 2019; Short, 2019; Fan *et al.*, 2013).

Following the fierce economic competition that is occurring, the need to produce youth that are critical, innovative (Ahuna *et al.*, 2014), imaginative and creative (Mohamad Yusof, 2017; Wilkin, 2017) are immense because they are an important aspect that will confront the information technology boom (Ichsan *et al.*, 2019). Hence, constructivist-oriented teaching, which also takes into consideration the involvement of students participating actively in teaching and learning whether in physical or virtual environment, must be uphold in order to achieve the objective of educational transformation (Anduvare & Holmner, 2020; Kuk & Holst, 2018; Raiyn, 2016). Pertaining to this matter, the researcher will highlight on constructivist-oriented teaching and the challenges in developing the approach.

Realizing the importance of applying constructivist-oriented teaching as a pathway to develop students with high marketability (Wong & Ng., 2021; Kuk & Holst, 2018), various researches had been conducted in detail regarding the development of this approach. Nevertheless, the research is still viewed as lacking and a thorough research is still required to gain proper understanding of the importance of students' involvement in this approach. This is to ensure the correct transfer of knowledge that could develop the students' mind transformation; which is prominent to fulfil the requirement of future learning environment, would occur during the process.

Application of constructivist-oriented teaching is actively discussed among researchers due to past researches claiming learning environment affect students learning outcome (Chen *et al.*, 2017; Vinales, 2015; Puteh *et al.*, 2014; Rugutt, 2013; Thuen & Bru, 2009; Tessmer & Harris, 1992; Ramsden, 1991). The outcome of past researches is aligned with Vygotsky's Social Constructivist Theory (19978) that concludes learning environment gives impact towards students' learning outcome especially in terms of acquiring, constructing and transforming knowledge.

Constructivist-Oriented Teaching and Transformational Education in Malaysia

Emphasis in constructivist-oriented teaching arises in order to fulfil our nations' vision in making Malaysia a high-income developing nation through implementation of educational transformation (Tajudin & Chinnappan, 2016). Through educational transformation, Malaysia aims to produce citizens that are global minded but still maintain their nationalism spirit; citizens that are able to innovate and compete in various area globally and eventually leading Malaysia towards being a developed and prosperous country (Ismail, 2016).

Constructivist-oriented teaching is viewed by past researchers as one of the elements of learning environment (Chen *et al.*, 2017) which is a very important component in teaching and learning process. Learning environment is regarded as an important component in teaching and learning because it affects students' learning outcome whether in terms of skill development, cognitive perception and even students' behaviour (Fraser, 1998). Mohd Saad (1997) also explained that learning environment measures the environment factor that directly affect a person's success in learning such as school environment and supportive atmosphere.

Learning environment is defined as the atmosphere or the environment that directly influences students' success through learning process (Chen *et al.*, 2017; Tessmer & Harris, 1992). Richardson and Mishra (2018) in their research on learning environment supports the development of students' creativity further defines learning environment as teaching quality, students' participation, students' physical, social and psychological experience, and pedagogy during teaching and learning session. Ramsden (1991) and Biggs (1999) described that learning environment is related to students' experience within learning context. The relationship between students' experience and learning environment exist when students and educators gathered for a certain period of time with the purpose of participating in a learning activity. Therefore, the environment that is created during learning activity is considered as an important component during teaching and learning process (Chen *et al.*, 2017; Puteh *et al.*, 2014).

Based on past definition on learning environment, Chen *et al.*, (2017) through his study explained, learning environment that involves active development of students' knowledge is in accordance to constructivism concept. This is because constructivism concept from the perspective of constructivist members in regards to learning environment explains the importance of knowledge development process that leads to high quality thinking among students (Jamaluddin *et al.*, 2019).

Dzubaniuk and Nyholm (2021) and Chen *et al.*, defines constructivist-oriented teaching as a knowledge development process involving learning element that expands beyond the concept of knowledge transfer. Knowledge development process will become more valuable if students' active participation become the main focus during teaching and learning process. At the same time, meaningful learning experience are gained by relating background knowledge with own experience (Jayasinghe, 2021; Lawrence & James, 2016). Hence, students' active involvement is highly related to the application of constructivist-oriented teaching (Jayasinghe, 2021).

Curriculum transformation implemented by the Malaysian government is one of the efforts to improve students' mind development through learning program. It is implemented in order to increase the students' success in achieving the six aspiration which are knowledge, thinking skills, leadership skills, bilingual skills, ethics and spiritual; and national identity (Curriculum Development Division, 2016). The improvement brought by the government can be seen through programs such as Critical and Creative Thinking Skills that includes High Order Thinking Skills (HOTS) approach as recommended by Malaysia Education Development Plan 2013-2025 (Ministry of Education Malaysia, 2013).

Malaysia Education Development Plan (2013-2025) is a long-term strategic planning that enables the overall implementation of national education transformation by interpreting the essence of National Education Philosophy in order to create a balance education (Curriculum Development Division, 2016). Therefore, priority must be given to equip oneself with new knowledge, skills and practices in learning and development process that are relevant with the development and the need of the 21st century especially on the concept of lifelong learning to ensure the surge towards Malaysia education success (Dziubaniuk & Nyholm, 2021; Mohd Arshad & Mohd Yasin, 2015). Lifelong learning concept can be viewed through transformation in curriculum, by changing Integrated Curriculum for Secondary School into Standard Curriculum for Secondary Schools that emphasize on students' ability to interact in various situation, problem-solving skill and the ability to think and interpret an issue (Bourke, 2019; Curriculum Department Division, 2016; Mohd Arshad & Mohd Yasin, 2015).

Application of Constructivist-Oriented Teaching Within the Process of Educational Transformation in Malaysia

Past researchers admit that constructivist-oriented teaching can be applied in any learning courses as long as the process involves two-way interaction between teachers and students. Hence, many studies were conducted to explore constructivist-oriented approach in teaching and learning (Dziubaniuk & Nyholm, 2021; Jayasinghe, 2021; Hagg, 2021; Wong & Ng, 2021; Saghafi, 2021; Zadok,

2020; Anduvare & Holmner, 2020; Mayrhofer, 2019; Acharya *et al.*, 2019; Kuk & Holst, 2018) in order to analyse the pedagogy used by educators while presenting knowledge. Various approach and technique to impart knowledge has been used in learning courses or subjects whether in primary schools, secondary schools and even in higher education. The implementation of various approaches and techniques contribute towards the development of constructivist-oriented teaching that prioritizes on individual active involvement in education.

Dziubaniuk and Nyholm (2021) in their research entitled “Constructivist Approach in Teaching Sustainability and Business Ethics: A Case Study” explained that high satisfactory level among students were achieved due to implementation of coursework and practical discussion element in teaching and learning session. These elements become the variable in the researchers’ study as it requires active involvement of students in order to master the skill of knowledge application through effective pedagogical approach (Hagg, 2021; Saghafi, 2021). A successful active involvement of students in teaching and learning session reflects Malaysia’s success in its education system in which students are equipped with skills, values and knowledge that one day will make our future and our society prosperous (Wong & Ng., 2021; Rupert & Bolt, 2015).

Jayasinghe (2021) also clarified the importance of application of constructivist-oriented teaching especially in learning courses that involves integration of knowledge and experience with real world situation. Through her research in “Constructing Constructivism in Management Accounting Education: Reflections from a Teaching Cycle with Innovative Learning Elements”, majority of the students who took accounting management reacted positively in regards to the teaching approach used by the lecturer (2021). The element of synthesizing information by relating to real problem-solving skill in real situation that was inculcated in the lecturer’s approach has challenged the students mind to create an authentic and innovative way in solving a problem. This approach did not only create a professional teacher-student relationship (Mayrhofer, 2019; Salleh & Wee, 2015) but it also developed students’ mind through implementation of critical skills.

Zadok’s study (2020) in “Project-Based Learning in Robotics Meets Junior High School” described in details regarding meaningful learning that is a renowned concept in education field. Project-based learning approach that becomes the focus element by the researcher does not only becomes an eye opener regarding the importance of teacher-student relationship but it also proves that learning based on experience by carrying out a project becomes a platform for students to improve their self-confidence and fixing their view of a teacher as a facilitator instead of a teacher in the traditional sense that only presents knowledge (Jamaluddin *et al.*, 2019).

Acharya *et al.*, (2019) through her research on “The Effectiveness of Applied Learning: An Empirical Evaluation Using Role Playing in the Classroom” said that applied learning approach using “role play” element increases the effectiveness of classroom learning due to students’ active participation. Role play activity that is applied by the teacher in the research is one of the suggested activities for constructivist-oriented teaching. The implementation of this activity could prevent teachers from employing traditional teaching approach that does not includes students’ active participation.

Bakry and Bakar (2015) explained the factors that cause inability to implement practical skills among students are due to learning environment focusing solely on the teacher and prevents students' active participation in class. Traditional learning approach is still being implemented even though it is proven that students' active involvement during teaching and learning session contributes towards mind transformation as well as improving one's critical skills (Wilkin, 2017). Hence, extensive discussion regarding students' active participation in teaching and learning session must be carried out in order to prevent students' mind from becoming underdeveloped due to traditional teaching approach.

There is a positive and significant relationship between student-teacher relationship and students' achievement which proves the teacher's role as a catalyst towards students' achievement (Chen *et al.*, 2017; Mokhtar, 2012). Good relationship between teacher and students are formed through effective communication; encouraging the teacher to assist the students in solving problems during learning process through application of various constructivist-oriented teaching method (Dziubaniuk & Nyholm, 2021; Jayasinghe, 2021; Hagg, 2021; Wong & Ng, 2021; Saghafi, 2021; Zadok, 2020; Anduvare & Holmner, 2020; Mayrhofer, 2019; Acharya *et al.*, 2019; Kuk & Holst, 2018).

Within school context, an effective teacher that is liked and respected by students (Hassan & Mohd, 1999) must have good communication skill. This is because communication involves sharing of experience between teacher and student that eventually leads towards formation of human relationship. A study on high school students find that the importance of student-teacher relationship overcomes the factor of teachers' approach in teaching. This is due to students' level of interaction with the teacher contributes towards students' success in their academic in which the teacher is the catalyst that motivates the students (Mohd Ishak & Mohammad, 2001; Okula, 1999).

Rahim *et al.*, (2015) through his study towards 195 final year students from UPM and UTM regarding relationship between participation in learning and students' reflective thinking level, finds that students' refusal to actively participate in learning is caused by lack of support given by the teacher towards positive development shown by the students. Students' refusal to actively participate in learning session hinders students' cognitive ability in which preventing students' mind transformation from developing effectively. Empirical studies have documented positive effect of caring attitude towards student-teacher relationship that also affect academic achievement (Mohd Ishak & Mohammad, 2001; Okula, 1999).

Therefore, teacher's caring attitude towards student must not be forsaken because this attitude has positive relationship with academic effort and social responsibility as well as prosocial objective. A caring and loving teacher is seen by the students as someone who is democratic during interaction, takes into consideration individual differences in learning, a role model to the students and provides constructive feedback (Mohd Ishak & Mohammad, 2001; Okula, 1999).

Research by Abu and Eu (2014) towards Form 4 students through achievement in Additional Mathematics subject find that the teachers' lesson during teaching and learning process influences students' achievement. Interesting

teaching approach and encouragement of students' active participation causes the students to become motivated to learn and thus contributes towards successful achievement in their studies. However, there is inconsistency in the research finding when students mastery of High Order Thinking Skills and academic achievement are related to peer influence factor. Ali and Eu (2014) finds that peer influence has no relationship with students' achievement in Additional Mathematics subject. However, Kamaruddin (2003) and Azizah (1999) gain the opposite result in which peer influence contribute towards students' achievement in a certain subject.

CONCLUSIONS AND RECOMMENDATION

In conclusion, applicability of constructivist-oriented teaching that was explained in detail in application of constructivist-oriented teaching is important in teaching and learning session because students' active involvement in understanding, defining and transforming the received knowledge contributes towards successful mind development. This is because through constructivist-oriented teaching, two-way interaction is created between teacher and students. At the same time, it facilitates the process of equipping students with critical skills that are applied during teaching and learning process. Therefore, challenges that hinders creative development process by the teachers through variety of approach that could encourage students' active participation during teaching and learning session must be curbed as soon as possible aligned with the nations' preposition of transforming Malaysia education.

Based on the perks and importance of constructivist-oriented teaching in the national education transformation, the researcher suggests that a research related to learning environment and constructivist-oriented teaching can be further developed by widening the study scope that spans various leaning courses. Research method that involves experiment is also seen as suitable to be applied in this research in order to gain a clearer and stronger proof about the importance of students' active participation in teaching and learning session. Besides, the researcher also suggests that a study that differentiates between various teaching method within a subject could be emphasized on as well as taking into consideration the aspect of virtual session of teaching and learning during Covid-19 phase.

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