

Enhancing Outcome Based Education via Visible Learning

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Abstract

This conceptual paper discusses the framework of teaching and learning which integrates Outcome Based Education (OBE) in Visible Learning's Ten Mindframes. In sustaining the quest for excellence in the Malaysian higher education system, the way forward is to structure teaching and learning holistically into the four key elements namely, engagement, constructivism, feedback and evaluation, and knowing thy impact, which embed OBE and the Ten Mindframes in ensuring effective student learning gains. The principles of OBE focus on student-centeredness, clarity in outcomes, aligned assessments as well as effective classroom experiences. The positive engagement of the learners and teachers will contribute to the learners' affective domains. A clarity of focus and the effectively constructed curriculum promote sustainability in the teaching and learning processes. This is in line with the focus of OBE on the learners' attainment of the learning outcomes in terms of the cognitive, psychomotor and affective domains in Bloom's Taxonomy ensuring clear standards for observable and measurable outcomes. To enhance learners' attainment of the learning, feedback and evaluation are crucial in the framework to allow learners to act and improve from the feedback. One of the key highlights in Visible Learning is to focus on student's learning. Learners need to know what are the learning outcomes in order to vision what successful learning is, which fosters their achievement on the outcomes in OBE. This conceptual paper focuses on how the Outcome Based Education can be further enhanced through making learning visible for effective demonstration of the learning outcomes.

Keywords: Outcome-Based Education, Visible Learning, learning outcomes.

1. INTRODUCTION

In sustaining Malaysian hegemony in the twenty-first century, it is vital to ensure a continuous progression of a multifaceted higher education in Malaysia. The current wave of economic growth is highly dependent on human capital which focuses on creative, critical and innovative thinking. The nascent development of the human capital in terms of knowledge, skills and attitudes, derives from the education system of the country. The education system in Malaysia is often being emphasised in ensuring the quest of excellence in a sustainable education development, which

continues to develop the economy of the country. Under the 2021 Budget, the Ministry of Education received the highest allocation of RM50.4 billion (15.6% of the total government expenditure) (New Straits Times, 2020). From which, RM14.4 billion has been allocated to improve higher education.

Outcome Based Education (OBE) in Malaysia was initiated in 2005, which focuses on the improvement of the quality of human capital in Malaysia (Jean-Francois, 2018). OBE has improved the academic achievement of the undergraduates in Malaysia. The percentage of Diploma learners scoring below CGPA 3.0

decreased from 62.3% (2008) to 43.3% (2018), whereas the percentage of Bachelor's degree learners scoring below CGPA 3.0 decreased from 80.7% (2008) to 52.3% (2018) (Ministry of Education Malaysia, 2008; 2018). Though the academic achievement of the undergraduates has shown good progress in the nearest past ten years from 2008 to 2018, yet the percentage of the undergraduates scoring below CGPA 3.0 is still high, which is close to 50% for Diploma graduates and more than 50% for Bachelor's degree graduates.

One of the strategies recently put forward to enhance learning goals is to make learning visible in the 21st century classrooms. Visible learning according to Hattie (2012) refers to making student learning visible to educators and seeing the impact of teaching and learning. This can be achieved through various aspects such as engagement, constructivism, feedback and evaluation, and know thy impact, to cater to the individual student's needs so that they are capable of contributing to keen competitive industrial needs in today's IR 4.0.

Emphasising the process and outcomes of the teaching and learning is crucial in ensuring impactful and successful learning for learners. Both teachers and learners need to understand and see teaching and learning from one another's perspectives in order to achieve the desired learning goals. Other than equipping learners with the relevant content knowledge, caring for their wellbeing, welfare and learning needs as well as developing positive learning attitudes should also be prioritised. Hence, enhancing OBE via Visible Learning emphasises the holistic learning experiences of the learners and better equip them to face the industries.

Figure 1 shows how the Ten Mindframes of Visible Learning enhances Outcome Based Education which will be discussed in the following sections.

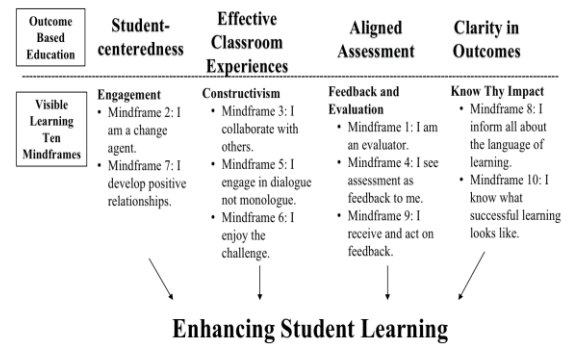


FIG.1. Enhancing OBE via Visible Learning.

II. STUDENT-CENTEREDNESS

The 21st century classroom is one that has witnessed a global paradigm shift towards learners taking more responsibility for their own learning process. This puts forward a shift from teacher dominance to student centeredness which is crucial in promoting effective student engagement. This is an aspect which is well articulated in OBE where the teacher plays a pivotal role in encouraging their learners to make decisions and work at their own pace believing in their potential. This aspect is well aligned to Visible Learning Mindframe 2 which focuses on the role of the teacher as a change agent, and Visible Learning Mindframe 7, which is responsible for developing positive relationships with learners.

Student-centeredness provides opportunities for learners to construct their skills and understanding. In a student-centered learning environment, learners should actively participate in learning to make sense of the knowledge (Baeten et al., 2015). In a student-centered learning environment, learners improve their understanding on the topics through active involvement in learning. Student engagement is essential in learning. The more learners are engaged in learning, the better prepared they are to reach their fullest potential, which in turn boosts their self-confidence. Learners are involved in cooperative learning, whereby they are learning together with other peers in constructing their knowledge and skills. Group learning fosters positive relationships among learners as well as between teachers and learners, which promotes

motivation in learning. This helps improve the learners' learning gains.

In advocating student-centered education, teachers need to play the role of change agents in allowing learners to take ownership and be responsible for their own learning. Learners often have different interests, learning styles, and learning preferences. Therefore, teachers need to find out how the learners' preferences in interacting with the course materials such as via pre-recorded lectures, recommended reading materials, case study discussion or other interactive classroom engagement, as well as knowing what the learners are interested in. Teachers' mindframe of being a change agent is crucial in this aspect to provide the best learning experiences based on learners' diverse backgrounds. Teachers who do not see themselves as change agents, will not explore ways to allow learners to learn maximally in student-centered classrooms. One critique on OBE is that it emphasises much on predictable outcomes for learners which does not accommodate the subjective state of individuals (Yu, 2020). There is a tendency of cultivating learners who are followers, but not pioneers with the implementation of OBE. The real fact is that teachers are dealing with "humans" who are different from one another. Based on the results of the full accreditation report by MQA on a diploma programme in Malaysian vocational colleges, it is found that OBE practices are still low (Malaysian Qualification Agency, 2018). One of the main reasons cited is, senior teachers' mindsets of rejecting change in adopting OBE in the tertiary education system (Ortega & Cruz, 2016). The implementers play crucial roles in ensuring the approach is effective and successful. Hence, the teachers' mindsets are important. Given the best approach and curriculum, but if the teachers are not willing to be the change agents, the implementation will fail.

Other than being a change agent, building a positive student-teacher relationship encourages effective student engagement in the classrooms. It is said that teachers often lament learners' poor learning behaviours such as not paying attention and not responding during online lectures. This often leads to concerns in

learners' academic achievement. In some scenarios, learners might just drop out from the programmes. To alleviate this gap, enhancing student engagement via positive lecturer-student relationship has to become the call of the day, and hence Mindframe 7: I develop positive relationships. The teachers must not only see the needs of emphasising student-centeredness in teaching and learning, but also need to acknowledge the fact that establishing positive relationships with learners influences their learning (OECD, 2018). A mutual supporting relationship stimulates learners to work towards their goals in achieving the learning outcomes. Creating a conducive and stress-free learning environment motivates the learners to develop passions in connecting their learning experiences. Teachers should understand the learners' learning needs and styles in order to encourage a trusting learning atmosphere with learners. A positive relationship with learners promotes their motivation to engage in self-regulated learning. Self-regulation learning requires high intrinsic motivation and self-autonomy in learners, which is a student-centered process (Oates, 2019). Once the learners are motivated, they become proactive in learning and take more control of their learning process. Hence, this is when Mindframe 7: I develop positive relationships is an important mindframe to complement OBE in emphasising on student-centeredness.

Student-centeredness focuses on learners' active construction of knowledge through cooperative learning. Henceforth, education programmes need to accommodate and focus on being adjusted to meet learners' learning needs as well as address the differences in background and learning pace or abilities (Holmboe & Harden, 2017). In emphasising this key aspect in student-centeredness, teachers need to be the change agents in providing opportunities for learners to build their knowledge and skills. To effectively engage learners in student-centered learning, teachers have to develop positive relationships with learners to motivate them in learning better.

III. EFFECTIVE CLASSROOM EXPERIENCES

OBE might not be effective if the teachers have the conservative mindframe and continue with their traditional way of delivering the contents to learners. The teachers must be willing to adapt to the changing needs in a sustainable education by developing transformative mindframes to ensure learning is visible to the learners. Learning should be constructive for learners. In implementing constructivism in promoting effective classroom experiences, it is important to look into the three mindframes under Visible Learning, namely, Mindframe 3: I collaborate with others., Mindframe 5: I engage in dialogue not monologue., and Mindframe 6: I enjoy the challenge. Effective classroom experiences help the learners to better understand how their learning can be applied in the real world settings. Learners need to see the relevance of learning to real experiences in achieving the learning outcomes set. Therefore, learning experiences should be visual and practical for learners. The teachers need to have a deep understanding of the principles of effective teaching in order to make an impact on learners' learning. One strong emphasis in OBE is having clear and specific learning outcomes identified of what the learners need to achieve at the end of the course or lesson. The "what" in learning is being specified in OBE, but not so much on the "how". Teachers have the freedom to adjust the learners' learning experiences to maximise their attainment of the outcomes. Hence, the classroom experiences depend much on the teachers' mind shifts in ensuring the learning processes are effective. It is crucial for teachers to create a nurturing and productive learning environment where learners develop critical thinking, communication, collaboration, and creativity skills in the 21st century classrooms (Budhai & Taddei, 2015).

Under Mindframe 3: I collaborate with others., both the learners and teachers' mindframes are equally crucial in implementing collaborative learning for effective classroom experiences. The learners need to understand the objective of participating in collaborative learning and develop collaborative skills, whereas the

teachers have to implement effective collaborative learning in the classrooms with clear intention and strategies. Collective efficacy is the top influence factor on student achievement (Hattie, 2016). Bandura coined the term "collective efficacy" in which it is believed that when educators collaborate and develop the mindset on their own collective abilities in influencing student learning achievement (Donohoo, Hattie, & Eells, 2018). Teachers need to be reflective in their practices in improving the implementation of collaborative learning. It is necessary for teachers to develop a mindframe to see the need of collaborating with learners in the classrooms as well as promoting effective collaboration among the learners. Encouraging collaborative learning plays a key in advocating constructive learning experiences for learners. Adopting collaborative learning as the strategy of instruction is beneficial to learners in improving their knowledge, skills, and attitudes, which improves their learning competency and motivation (Zhang & Cui, 2018). Learners construct their understanding and learning through the interaction with peers such as engaging in effective group discussions, group presentations, and other forms of group activities. Student learning is highly dependent on the socio-cultural daily interactions, which shape cognitive thinking and behaviour, especially in learning (Minick, 2017).

Mindframe 5: I engage in dialogue not monologue. focuses on engaging dialogue in the classrooms fosters self-regulation and deep learning among the learners. Continuous dialogic interaction enhances learners' cognitive abilities in understanding and reasoning, as they have the opportunities to analyse learning and evaluate opinions from peers (Knight & Mercer, 2015). Classroom discussions, peer tutoring, and small-group learning are some strategies which involve the learners and teachers in dialogue, rather than monologue. Consistent dialogue encourages deep investigation on the topic which widens learners' perspectives and ideas. This ensures effective classroom experiences for the learners

in improving learners' attainment of outcomes in OBE.

Mindframe 6: I enjoy the challenge. emphasises on challenging learning constantly in achieving the learning outcomes. The role of teachers is to ensure the challenges set are right for the learners in scaffolding their learning. Student learning needs to be scaffolded within the Zone of Proximal Development, to improve the learning gains among learners. Successful scaffolding helps learners to become independent progressively in learning, in which the facilitation is provided in the beginning and the scaffold is gradually withdrawn in shifting the learning from teachers to learners (Cadieux & Goldszmidt, 2017). In promoting effective learning, facilitation and guidance need to be provided to the learners to challenge their learning so that they understand the contents and are able to achieve higher order thinking. When challenges are added to student learning, they are required to analyse the evaluation on the topics to find out further or problem solve. This type of classroom experience is more meaningful to learners.

In creating effective classroom experiences for learners under OBE, teachers need to observe the 3 Cs (critical thinking, communication, collaboration, and creativity skills) in the teaching and learning processes. Hence, acquiring mindframes to encourage collaboration, dialogue and communication, as well as setting challenges for learners are pertinent to foster effective classroom experiences in learning.

IV. ALIGNED ASSESSMENT

In ensuring an effective assessment in OBE, it is important to highlight feedback and evaluation. The Mindframe 1: I am an evaluator., Mindframe 4: I see assessment as feedback to me., and Mindframe 9: I receive and act on feedback. Feedback helps learners to understand their own performance abilities towards achieving the identified learning outcomes. In enhancing OBE's emphasis on assessment, questioning strategy is required to allow learners to evaluate their own learning,

and provide feedback to learners via assessment tasks so that they act and improve based on the feedback received. In OBE, the assessment is aligned with the learning outcomes. The formative or summative assessment must reflect student achievement of the intended learning outcomes (Gil-Jaurena & Softic, 2016). One emphasis in OBE is to assess the student attainment of the learning outcomes via different assessment forms. The process of aligning assessment to learning outcomes carefully examines the links between course learning outcomes and assessment forms and tasks in evaluating student attainment based on Bloom's taxonomy. There are three domains of learning under the framework of Bloom's taxonomy: Cognitive, affective, and psychomotor. Other than assessing the cognitive achievement of the learners in learning, OBE also assesses learners affective learning in terms of their learning attitudes, interest and other behavioural characteristics, as well as the psychomotor learning, which involves the physical skills (Rao, 2020).

Although feedback is one of the most powerful influences on student learning, it can be either powerful or harmful depending on the quality of feedback (Hattie & Zierer, 2018). Effective feedback is clear and specific in addressing learners' strengths and weaknesses in completing the assessment tasks. Providing specific feedback highlighting learners' specific areas needing improvement helps the learners to see learning expectations. Learners need to be evaluators under Mindframe 1: I am an evaluator. They need to take ownership in evaluating their own learning. However, if the feedback is general, highlighting only surface performance of the learners, learners are not able to see the intended specific learning outcomes. Hence, teachers need to use assessment as a form of providing feedback to the learners. After learners have attempted the assessment tasks, constructive feedback emphasising on feed up, feed back and feed forward should be given to learners (Hattie, 2009).

From the feedback, learners evaluate their own strengths and weaknesses in terms of their learning abilities to explore ways to further

improve themselves. Effective feedback should allow learners to question themselves “Where am I going?”, therefore the learning intentions should be clearly explained during the process of providing feedback to learners. This promotes their mindframe in evaluating their own learning abilities towards achieving the learning outcomes.

Learners and teachers should view assessment as feedback as in Mindframe 4: I see assessment as feedback to me. Under OBE, assessments are crucial in assessing the learners’ attainment of outcomes. Hence, both learners and teachers should perceive assessment as an important part of the learning, rather than perceiving it as a daunting task. Upon understanding how assessment is being formed and what it is assessing for, the learners and teachers will have a clearer picture of how it acts as feedback in the learning process.

In giving feedback on learners’ performance, the teachers should highlight on the mistakes made by learners and suggest specific strategies for learners to work and improve. One important mindframe in Visible Learning is Mindframe 9: I receive and act on feedback. Learners should be given the opportunities to act on the feedback received. Hence, effective feedback will enable learners to understand their mistakes and develop their action plans in improving based on the feedback given.

In fostering effective assessment in OBE and improving student attainment of outcomes, learners should be scaffolded to achieve a higher level of learning. In feed forward, feedback should be given to learners for them to question themselves “Where to next?” (Hattie & Timperley, 2007). In advocating the domains of learning of Bloom’s taxonomy, especially the affective and psychomotor learning, learners should be informed on how to develop better learning attitudes and physical skills to take it on for the following courses in the learning process. Learning should be transferable across courses. Both learners and teachers should be able to evaluate the teaching and learning processes in two-ways, understanding the meaning and purpose of assessment as well as receiving and acting on

feedback given for continuous improvement. Hence, the three mindframes about feedback and evaluation are crucial as the yardstick in fostering aligned assessment.

V. CLARITY IN OUTCOMES

Clear and measurable outcomes are highly stressed in OBE. Most higher education institutions in Malaysia prepare their curriculum with the learning outcomes specified in running the programmes. The programme learning outcomes and course learning outcomes are carefully formulated for each course. This is one key guideline in the codes of practice outlined by Malaysian Qualifications Agency (Malaysian Qualifications Agency, 2008). Other than setting measurable outcomes, teachers and learners need to be informed and understand the outcomes set as well, hence Mindframe 8: I inform all about the language of learning. and Mindframe 10: I know what successful learning looks like.

Under Mindframe 8: I inform all about the language of learning., teachers need to be clear on the intended outcomes set for the learners to assess what the learners need to know and their achievement of the outcomes. This is in line with the ten mindframes of Visible Learning, whereby the learners and teachers should “see” teaching and learning from each other in order to achieve the desired learning outcomes. Learning outcomes must be clearly set at the threshold of learning. The learning outcomes will determine the assessment tasks and forms as the mapping of learning outcomes to assessment is crucial in OBE. Learners need to be informed about the intended outcomes of the course and understand the impact of their learning. They have to be informed on the language of learning. Clear and specific outcomes enable the learners to take ownership of their learning and develop the responsibility in tracking their own learning based on the intended outcomes. In the process of evaluating learners’ learning abilities based on the learning outcomes, learners need to have the mindset of becoming critical learners to

constantly evaluate their own learning skills and attitudes.

From the teachers' perspectives, in ensuring the learning outcomes are achieved at the end of the course, they must determine learners' prior understanding. It is crucial to find out the initial knowledge and skills of the learners before planning the classroom experiences, which should be done consistently throughout the learning process (Hattie & Zierer, 2018). Certainly the clear learning outcomes are important yardsticks in determining the achievement of the learners. Yet, the teachers should also know learners' skills and attitudes during the learning process to better facilitate their learning. The teachers should focus on student learning and be informed about their learning. By developing Mindframe 8: I inform all about the language of learning., the teachers should create a concept map in planning their lessons so that the learning tasks can be better structured to facilitate the learners in achieving the outcomes. With a clear concept map, the learners will be able to see their own learning gaps in using the learning outcomes as the reference point.

Framing clear learning outcomes enables the learners to know the goal of the topic as well as what they need to achieve at the end of the course. Learners should understand what successful learning is, in a more concrete way. A clear guide in what learners should do and how they can achieve the outcomes, should be outlined to the learners so that they see where they are heading to in the learning process. Learners should be informed on the whole picture of successful learning in a more visible form. They must be able to clearly picturise it in their mindsets. before they are able to visualise their own roles in the learning process. Often, teachers might just assume learners should know themselves or rather they should find out themselves. However, the fact is learners are often clueless what successful learning looks like without guidance. They need to be guided and informed on successful learning. Therefore, teachers too need to develop this mindframe and view learning from learners' perspectives. Hence, Mindframe 10: I

know what successful learning looks like. is essential for sustainable learning.

Having clarity in outcomes is vital in OBE as learners' learning abilities are assessed based on the outcomes. To further enhance OBE's key element on clarity in outcomes, both learners and teachers need to be well-versed with the outcomes and what learning is all about. Therefore, informing learners of the language of learning is crucial, as well as guiding them to understand what successful learning is all about.

VI. CONCLUSION & RECOMMENDATIONS

If learning is not made visible, learners see learning as a complicated process and they are trapped in the process. This demotivates learners to learn as they might feel helpless in the learning process. In a sustainable education, it is crucial not just to focus on learners' cognitive learning, but also the affective and psychomotor learning as part of a holistic learning in every student. If learners feel demotivated in learning, their attainment of the outcomes will be low. However, when teaching and learning are visible, in which the mindframes are being emphasised in the teaching and learning process, learners tend to strive for better achievement. OBE has been the key to the curriculum design in all Malaysian institutions of higher education.

However, with the ever changing teaching and learning environment in our society today, it is crucial that teachers stay two steps ahead of their learners in helping them embrace the new norm and their future workplace. Educators today need to realise that the traditional one-size-fits-all approach is no longer valid in today's flexible learning environments.

Henceforth, it is pertinent to take into consideration the concept of how we can enhance the aspirations of Outcome Based Education (OBE) via Visible Learning which emphasises the ten mindframes put forward by John Hattie. More importantly, we need to ensure continuous improvement in delivering

sustainable teaching for learning so that our learners can take responsibility to continue to learn on their own and develop into autonomous life long learners.

This has been well expressed by Thomas Moore when he said that “Education is not the piling on of learning, information, data, facts, skills, or abilities...but is rather making visible what is hidden as a seed” so that they will continue to grow and explore learning in the future.

ACKNOWLEDGMENT

This work was supported by SEGi University [SEGiRF/2021-1/FoEL-4/104].

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