

Authentic Learning Experience: Subtle But Useful Ways To Provide It In Practice

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ABSTRACT

Authentic learning is conceptualised as an individualised experience learners undergo fulfilling their unique psychological as well as neurological needs. It provides a deep, more lasting experience and ideally assessed through generic attributes that are related to individual learners' intrinsic characteristics, spanning throughout the life. Question-based lecture delivery, as author identified, is a promising methodology to engage learner in an authentic learning experience. By forming the lecture as a series of questions, it essentially has a dialectic approach to teaching. Further this methodology provides a good pace for concept delivery allowing learners to engage in constructing meaning. Additionally, it allows aligning teaching to assessment tasks more appropriately, improving the reliability of assessment. Another practice that helps authentic learning, as highlighted in this paper, is only elaborating the most important concepts or material related to a study area, within the limited time available, and thereby, in the assessment as well. This contrasts from the notion that teacher has to mention every single fact in the study area in front of the learners, possibly directing learners to strategic approaches to learning. The time factor in relation to assessment components is also an important issue, as some learners may be disadvantaged if time is not allocated with careful thought. The significance of generalised, or higher-order, learning in an authentic learning framework is presented, as the knowledge gained through this way is likely to last longer in learners' memory and at the same time, more useful to them in a generic way, or in day to day situations. Such practices also inherently motivate learners to engage in a deep learning process. We further emphasise on motivating students by relating any study area or material to more generic processes we find in daily lives so that students get the notion of what they learn will be useful to them in future in a generic way, but not necessarily in a specific career. Use of practical work only in support of enhancing understanding of an abstract theory presented, but not otherwise, is also highlighted in promoting authentic learning experience.

Keywords: Authentic Learning; Higher-Order Learning; Question-Based Lecture Delivery; Learner Motivation; Neurological and Psychological Learner Characteristics

INTRODUCTION

Fully implementing an authentic education framework, as conceptualised in (Watagodakumbura, 2012), requires the attention of many stakeholders, including governments and major educational organisations. Without some major changes at higher levels, the benefits of such a framework may not be able to be realised completely. However, within the broad definition of authentic education, individual educational practitioners can develop and use certain methodologies to provide learners with an authentic learning experience. In this paper, the author first briefs on the essence of authentic education and then put forth some methodologies he has used in the past, reflectively, promoting this conceptualised view. We also highlight in the paper how these practices help getting the focus of visual spatial, or gifted, learners (Silverman, 1998, 2002), who are more vulnerable in traditional environments, to the teaching-learning context.

AUTHENTIC EDUCATION AS A DEEPER SENSE OF EDUCATION

Within an authentic education framework (Watagodakumbura, 2012), learners' individual psychological and neurological characteristics are given consideration and accepted as they are, promoting inclusive practices. For example, emotional and other high sensitivities commonly found in gifted and creative personnel (Dabrowski, 1970, 1972, 1977; Silverman, 2002) are not considered as constraints, rather they enrich a neurodiverse (Armstrong, 2011) society to operate in a more balanced manner. In an authentic education framework, learning preferences of auditory sequential learners as well as visual spatial learners (Silverman, 2002) are given consideration equally and unbiasedly and these preferences are mapped into related career paths so that individuals of both categories enjoy their work more naturally, or intrinsically. Learners with high developmental potential (Dabrowski, 1970, 1972, 1977), meaning the inclination towards a highly empathetic, satisfied and productive human being, get conducive environments to reach higher levels of development, similar to a self-actualised Maslow, 1968; 1993) state. An authentic education system sends learners through a lasting deep learning (Biggs and Tang, 2011; Entwistle, 1998) and critical thinking (Paul and Elder, 2000) experience, for which human brains are capable of under conducive teaching-learning environments; human brains are treated as parallel processors that are capable of dealing with multiple inputs and solving complex problems unlike machines, or computers that are good at executing routine steps in reaching specific answers very high speeds (Beale and Jackson, 1990). Following the fundamentals of neuroscience, many physical parts of the brains are incorporated into learning with methodologies similar to Kolb's experiential learning (Kolb, 1983; Zull, 2002) cycle and constructivist theory of learning (Biggs and Tang, 2011); learning has physical meaning in which neurons in the brain grow (Diamond, 1996, 2001) to develop dense communication network indicating deep learning, as opposed to surface, or superficial learning, has taken place. In an authentic educational practice, learner evaluation is done using generic learning attributes that are associated with learners' intrinsic characteristics, instead of an indication of how well a learner has prepared in a specific area of study prior to an assessment; these generic learning attributes carry qualitative values that are valid throughout one's life span as they relate to one's psychological and neurological characteristics very well.

QUESTION BASED LECTURE DELIVERY

The author has extensively used a methodology he refers to as question based lecture delivery. In that, a usual lecture is presented to the learners as a series of questions posed at them. These questions are usually open ended, and can be answered within a few minutes. The same material that we would deliver in a typical lecture is now presented as the answers to these set of questions presented. The idea here is to deviate from the traditional didactic approach to teaching and engage learners in a discussion, or follow a dialectic approach. By asking questions, the author attempts to get the learners' attention to the discussion, or get them more actively involved in the learning process. Generally, if we are asked a question, we tend to get excited and pay more attention to it than we merely hear it, especially in a monotonic tone. Further the time gaps between asking and answering the question, help the learners to reflect on and construct the answer. Considering the fact that the human brain is a parallel processor that operates relatively slowly than a typical machine, or sequential operator (Beale and Jackson, 1990), this approach allows more time for learners to engage in learning more deeply, or relate the information to what one already knows. Even though the learners are introduced, most probably, with some new learning material, the open ended questions posed at them encourage them to think open-mindedly, or construct an answer from what they already know and what they can recall; in other words, they will look for answers intuitively or heuristically. Usually, these open-ended questions are structured in such a way that the answers to them have to be deduced from what the learners already know, rather than mere recalling of memorised facts. Every learner may not have to relate their answer to the facilitator, though one or a few may do so. However, most of the learners may attempt to construct an answer on their own and verify it when the facilitator discloses it. Thus the learners have the opportunity to actively engage in learning constructing their own answers. From the learners' point of view, another positive of the question based lecture delivery method is that even if the learners get distracted from the main discussion during some stage of a teaching-learning session, they can re-join it when the next or a different question is posed.

Sometimes, we may find it difficult to align assessment to learning (Biggs and Tang, 2011; Ramsden, 2003); the question based lecture delivery method has the positive by-product of making it easy to align assessment to learning. If the facilitator wishes so, the assessment questions can also be constructed similar to the questions used during lecture delivery. If assessment is aligned to learning this way, the learners will get to know the nature of

the assessments throughout the teaching-learning period, making them better prepared for the assessment. It is not uncommon that learners inquire early in their study period about the nature of the assessments, or examinations, as that is their main concern usually. The assessment questions, though based on the type of questions discussed during the lectures, can be restructured in such a way that they test the generalised knowledge or concepts that learners are likely to retain longer, following the study period; that is, this is the knowledge or concepts they have generalised, or synthesised, from more specific applications or learning experiences undergone during the study period.

The questions discussed in the lecture are usually made available, or posted to the students well in advance. The author encourages the learners to go through the questions before coming to the lecture so that they are more prepared to engage in the discussion. Though this requires very good time management skills, it has good benefits in the learning process. The more the number of times you go through any learning material, the better the understanding, or digestion, of it. Even though we get to hear them in the lecture for the first time, it is better to go through them again within a few hours to make a more lasting impact on learning. Given this, if the learners can go through the set of questions discussed in the lecture, prior to it, it would result in more effective learning experience for the learners. During the lecture discussion, then they can validate their answers, or judgements, with the ones presented by the facilitator; such a situation will provide a very good feedback loop for learners. With this context in mind, the author sometimes refers to these questions as lecture preparatory questions. They help us to develop learner independence; when learners practice answering these question on their own, prior to the lecture, possibly going through some reference material, it reduces the learners' reliance on the facilitator. The learners will be directed to a path of self-guidance, leading to life-long learning.

The more unbiased pace of content delivery found in question-based lecture delivery method helps more specifically the visual spatial type learners, as they would be spending more time to visualise and relate the contents, or objects, presented. Questioning will also help them to feed their more curious minds with some challenge, enabling them to get their attention focused. In other words, the question-based lecture delivery method will help alleviating the disadvantaged situation the visual spatial learners usually find themselves (Silverman, 2002) in a typical lecture.

SETTING CURRICULAR WITH THE MOST IMPORTANT MATERIAL AND CONCEPTS IN THE STUDY AREA

When conducting courses, we all have to manage our time effectively; especially when a curriculum is set, we may not be able include every single important concept due to the time constraints. What we should do, in these situations is to include only the most important concepts, or material, that we can effectively and comfortably cover during the allocated time period. Any important generic knowledge or concepts can be given more prominence than to any specific knowledge in the area. We may be introducing the learners to a new area of study, but we should not be guided by the notion that we have to highlight every single point in the class for the learners to get to know it. In this modern era, information gets to one's table quickly and economically. What we should be doing is to motivate the learners to inquire more and find out, possibly with the help of some references and pointers given. We may raise the curiosity of the learners to engage in exploring and finding out through intrinsic motivation. Within an authentic education framework, the goal of learning is not merely to get a good grade at the end of the study period, but for personal development, for something more intrinsic and lasting. We can also align our assessment to test the students' learning focusing only in the areas we highlighted in the classroom. We can avoid merely introducing some contents briefly, without elaborations, for the sake of having it. That is, we may not try to include all the bits and pieces of a subject area in a single curriculum, covered in a limited period of time. It is also important that in the assessments, we cover as many areas as possible we highlighted, or elaborated, in the classroom; this encourages students to pay attention equally to all areas rather than selecting only a few. This way we make learning, or the knowledge gained, more consistent in a continuum, rather than scattered. In short, we should not overload a curriculum with everything that appears interesting, rather we need to prioritise them to identify the most important that fit in the limited time period. Overloading a curriculum would encourage learners to follow a surface or strategic learning approach instead of a deep learning approach (Biggs and Tang, 2011; Entwistle, 1998), minimising the positive learning outcomes.

ALLOCATING ADEQUATE TIME FOR UNDERTAKING ASSESSMENTS

Similar to the way we pay attention to decide the coverage of our curricular within a limited time study period; we need to pay attention to the amount of content we include in our assessment, especially the timed ones. The learners need to read and understand the questions, formulate answers, before writing them down. All these tasks require appropriate times allocated. Given that the assessments are not focused on mere recalling and application of facts, the learners have to provide non robotic, well-constructed answers. To reiterate, human brains are parallel processors that operates relatively slowly compared to machines that operate sequentially. Allocating a reasonable amount of time for reading and comprehension of the problems, formulating the answer and writing down will encourage learners to provide well-thought-out, unique and better answers. Such answers can then be evaluated for their quality, including the identification of some intrinsic learner characteristics. Such evaluation is usually not possible with objective type assessments such as the use of multiple choice questions. By allocating adequate time for completing assessment, we are inherently addressing the needs of diverse learner cohorts, a main focus of authentic learning environments; some learners would need more time to formulate their answers depending on their intrinsic personal characteristics. For example, as research findings indicate visual spatial learners usually do comparatively badly on timed tests and multiple choice, objective type, tests and would benefit if time allocations and selection of question types are done with much care.

CONSTRUCTING ASSESSMENT FOCUSING GENERALISED, OR HIGHER ORDER, LEARNING

We can align assessment for evaluating higher order learning. Going by the Bloom's taxonomy (Biggs and Tang, 2011; Ramsden, 2003), we would test learners' ability to evaluate and synthesise rather than the ability of mere recall or application. Ability to synthesise indicates the ability to generalise; that is from a set of more specific details, learners will be able to identify commonalities, resulting generalisation. When a learner is able to generalise, he or she can use that generic information or knowledge beyond the area of study in which it was introduced; learners will be able to apply this generalised knowledge to other areas of study, other disciplines or more general situations they face in the day to day life. This is one of the main expectations of an authentic education environment as learners will have a more lasting experience, making them capable of using and applying the learned knowledge to new situations. When a learner achieves a higher level of understanding given in the Bloom's taxonomy, we can safely assume that he or she is capable of fulfilling activities in the lower end of the spectrum, sometimes with additional practice or using longer time duration. For example, if a learner can accurately synthesise or evaluate, we can expect him or her to be able to apply the knowledge successfully. But the opposite of this could not be true; even if a learner is able to apply a piece of knowledge successfully, he or she may not be able synthesise or evaluate properly using that piece of knowledge. As a result, we should not set a ceiling at a lower level of the spectrum in setting the assessments, rather should allow learners to demonstrate their abilities at the highest levels of spectrum. Also we should not be prompted to include questions merely for the reason that it is more comfortable for us to set them; rather it should be based on a better judgment, indicating the questions will test the higher order learning abilities of the learners. Such assessment will have more validity in it and guide and direct learners to pursue higher order learning.

PRACTICAL WORK TO SUPPORT LEARNING ABSTRACT THEORY - NOT DISTINCT FROM EACH OTHER

In a course curricular, we should include practical work or laboratory experiments to support learners to understand abstract theories or concepts; they should not be standalone components used purely to improve learner skills. If our intension is to improve learner skill of using some tools or doing experiments, we would not be able fulfil our requirements due to the limited time frame we have. Usually, if we want to master a skill of using a tool or apparatus, we need to spend a reasonably large amount of time practicing it; longer the time we use, the better we become and it is almost impossible to become highly competent overnight. As a result, the limited time we may have for conducting practical work or laboratory experiments within a course curricular, we have to use it more usefully, for example, to enhance learner understanding. Going by the Kolb's experiential learning cycle, it is better that we use the practical work exposure to fulfil a complete learning cycle. In Kolb's cycle, he highlights the engagement in practical work in order to better understand the abstract theory, or to more internalise knowledge. Consequently, we need to relate the practical work or laboratory experiments as much as possible to the theory or

concepts we discuss in the classroom. Further, when conducting assessment, we should not assess learners purely on practical work or lab experiments, or the level of skill they have mastered using a tool or apparatus, rather we should assess the learners' ability to relate practical work to the abstract theory or concepts discussed. Testing for practical skills would require us to target our assessment to a lower end of the Bloom's spectrum, something we are trying to avoid in an authentic education environment. If we essentially need to test practical skills of learners, we may conduct formative assessment to achieve that. The practices highlighted here will help us to use the limited time we have to make learning more effective, fulfilling a complete learning cycle. Visual spatial learners, who are good in learning abstract theory, will be well supported by the system if the practical work introduced in the curricular is well related to the theoretical concepts.

TAKING APPROPRIATE MEASURES TO IMPROVE LEARNER MOTIVATION

There could be a number of reasons why learners get motivated (Maslow, 1987) or not; these reasons could be personal, organisational or social. However, as practitioners in pedagogy, we may be able to contribute positively in motivating or learners. The author identifies that if we highlight the general usefulness of the content we cover or concepts we highlight in the teaching-learning sessions, it will make learners more motivated. This is in contrast to highlighting a more specific contents or concepts that would only be useful in some restricted situations or applications. Generally, the learners will be more motivated to learn something that will be useful to them in future someway. They may not know what their careers would be in future, and would not be motivated to learn a course that highlights the knowledge or skills related to very specific career. As pedagogical practitioners, what we could do is to conduct our courses in such a way that contents or concepts from a specific area are more generalised and presented to the learners in a manner that they are useful for more generic applications, or day to day life situations. We have to be broad in the selection and presentation of our content or concepts, rather than being narrow. Highlighting and passing generalised knowledge essentially put us on a path to higher order learning. In higher order learning we encourage learners to engage in synthesis and evaluation of knowledge. Thus, by making our assessment aligned to higher order learning, we can motivate our learners to engage in deep learning with better understanding. The visual spatial learners, or the gifted learners, are more likely to get motivated better if we introduce more purpose to our education, such as usefulness in the longer run as highlighted above; they are more likely to get motivated intrinsically rather than the extrinsic motivation of getting a higher grade. Thus authentic educational practices help us motivation such learners who are likely to get distracted easily if the education they receive is not purposeful, or perceived to be irreverent.

CONCLUSION

In this paper, we highlighted some of the very useful but subtle methodologies we can use as practitioners of pedagogy to provide an authentic educational experience to our learners. Although these methodologies do not seem oblivious to us when seen superficially, more reflective observations convince us that we can improve further immensely in our practices so that no student groups or individuals are disadvantaged. We, as educators, need to understand the subtlety of the methodologies, in a deeper sense, so that they can be used more effectively in yielding individualised learning experiences to the diverse learner cohorts, as highlighted in concepts of authentic education. Further, these methodologies have the promise of sending the learners through a deeper learning experience resulting more lasting and useful outcomes, essentially raising their motivation levels intrinsically.

AUTHOR INFORMATION

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