The Need for a Deeper Perspective of Education to Make Way for an Authentic Learning Experience

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Abstract

This paper discusses some of the limitations of our common practices as educational practitioners. We may not pay attention to the needs of a neurodiverse society. Instead, we may incorrectly assume the existence of idealistic individuals in our learning environments. There are a number of areas related to assessment that we can improve on, following some reflections. We may continue to be didactic in our delivery despite its inherent deficiencies. A balance between theoretical concepts and practical work may not be achieved. We may fail to thoroughly understand the concepts of higher-order learning and put them into practice appropriately. The time factor in learning processes may not get the significance it deserves leading to sub-optimal environments. The need to address learner motivation levels may get neglected without understanding the serious consequences. We may allow non-educational bodies to dictate terms on our curricular, sacrificing important pedagogical and human principles. The socio-economic conditions may unnecessarily impact learners much more than individual neurological and psychological characteristics. We present these limitations and suggest how an authentic learning experience can be achieved by overcoming them.

Keywords: psychological and neurological learner characteristics, gifted learners, pedagogical principles, neurodiversity, higher order learning, authentic education

1. Introduction

Authentic education is identified in this paper mainly as means in which learners' individual psychological and neurological needs are catered; we define education in a multidisciplinary perspective taking into account important aspects outside the discipline of pedagogy. It provides a deeper perspective to education than what we have currently perceived in general. For example, higher sensitivities, or overexitabilities, of individuals along with other related characteristics are seen positively in an environment valuing neurodiversity. In this paper, the author highlights some ways in which we can provide an authentic learning experience to our learners, minimising some subtly understood negative practices. In the presence of wealth of findings from the domains of neuroscience and psychology, the need to reflect on some of our long standing pedagogical practices is unavoidable. Developing an appropriate set of practices that enhance learner understanding as well as engagement essentially involves integrating valuable inputs from a number of disciplines. In section 2, we present some of these less-optimal practices we may carry out inadvertently in our teaching-learning environments. Then we suggest possible improvements that lead to truly authentic educational experience, by engaging in reflective practices, and conclude in section 3.

2. The Needed Improvements from Our Current Practices

2.1 The Need to Address Unique Psychological and Neurological Needs

We have seen a trend in the recent past that educational organisations promote inclusive practices to be applied to teaching-learning environments. At the same time, psychologists who study the characteristics of gifted personnel, promote special educational programs and learning environments for gifted learners (Silverman, 2002; 1998). As revealed in the studies with enough evidence, gifted personnel show overexcitabilities, namely in the areas of emotional, intellectual, imaginational, psychomotor and sensual (Dabrowski, 1970; 1972; 1977). These overexcitable characteristics make them react differently, or in unusual manner, to stimuli, or social situations

than that would happen or expect normally. For these individuals, overexcitable characteristics and behaviour are innate and natural to them and usually last throughout the life span. In our current practices, we tend to accept behaviours without overexcitable characteristics as the normal, or the expected average behaviour. We as a society, tend to see those overexcitable characteristics and behaviour negatively, possibly as abnormal, despite the fact that individuals possessing these characteristics have the potential to be grate creators, innovators, leaders and scientists, to name a few, if fostered appropriately. The trend in the recent past promoting inclusive practices has not gone much far; the current superficial level of these practices need to go beyond this level to enhance broader understanding and acceptance. The author does not believe that disintegrating the gifted personal from the main education system is a viable solution; rather it should be including them in the main stream provided that inclusive practices are broadly and deeply understood and practiced. In an authentic educational framework (Watagodakumbura, 2012; 2013), one of the most important features is to raise the awareness of neurological and psychological diversity within the human species. We are made aware of each other's differences and we become more tolerant and accepting. It is quite natural that we tend to see clones of ourselves in the people we meet and disregard highly possible psychological and neurological difference in two different individuals. In an authentic education framework we attempt address this limitation directly and squarely. We inquire, especially, about possible emotional, intellectual and imaginational overexcitable characteristics of some learners that impact their learning process, and we accept that we need to make allowances for them. Individuals possessing these overexcitable characteristics tend to be curious, inquiring, creative and open-minded and yearning for fulfilment of these instincts. In other words, how can we engage in our teaching-learning process so that such individuals are not disadvantaged and identified correctly? How can we construct curricular to meet the needs of these personnel with overexcitable characteristics? The author suggested, in an authentic education framework, learner evaluations are to be done using generic attributes, rather than the currently used subject area specific grade or numeric mark. The positives of the former is that it is associated with the intrinsic learner characteristics and valid possibly throughout his or her life span; on the other hand, the latter has an extrinsic nature and may be valid for a shorter period of time after the conduction of the assessment. If we can identify an individual with intellectual, imaginational and emotional overexcitable characteristics, and are aware of his or her potential, the probable employers can match his or her intrinsic abilities and skills to an appropriate employment category. In this situation, the individual will be at ease, or in equilibrium, with his internal psychological and neurological characteristics and the employer benefiting from a highly functioning, well-tuned employee.

2.2 Not to Expect the Presence of Idealistic Learners in the Learning Environments

The characteristics of learners can be broadly categorised in to two, either visual spatial or auditory sequential (Silverman, 2002). When we differentiate between the two categories, it is important to understand that when one possess stronger characteristics in one type, he or she may distant himself or herself from the other type. For example, if one possesses much stronger visual spatial characteristics, he or she may show reduced competencies in auditory sequential skills. However, in learning environments, we tend to expect idealistic individuals possessing strong characteristics of both visual spatial as well as auditory sequential. The author argues that such expectations could be unrealistic. In other words, it is we being idealistic to expect a highly sensitive person with imaginational, intellectual and emotional overexcitabilities to be easy going and extroverted; it is highly possible that such a person is an introvert. It is as if we are expecting someone with very good abstract thinking abilities to be good at memorising facts, or rote learning, at the same time; gifted learners with good abstract thinking abilities perform much badly in rote learning environments. In an authentic education framework(Watagodakumbura, 2012; 2013), we tend to differentiate learners possessing a more preferred style, while trying to help on improving in the other style, without disregarding the less preferred one outright. Similarly, in the work type differentiation we made as implementers and integrators, it may be idealistic to identify a person with very strong implementer type characteristics and very strong integrator type characteristics. It is highly possible that one who is a good implementer is not an equally good integrator, and vice versa.

2.3 Improvement Needed on Issues Related to Assessment

Current practices of education leads to a number of less optimal assessment related issues. Learners are usually directed by the assessment in how they engage in the process of learning (Biggs, 2003; Ramsden, 2003). If the assessment is conducted in order to test ability to recall facts, the learners would usually try to cram the facts in to their heads the night before the assessment or examination. If the assessment leads to testing deeper understanding of the content covered, then the learners would have no option but to study and understand the content spending more time throughout the period, possibly a semester, or term. This is not to disregard the fact that, knowing mere facts would be very useful in many real life day to day situations. But the important point is

since facts can be relatively easily memorised if a situation requires, it does not need to be practiced or the main focus in a course of education. With the technological advances in the last few decades, information or facts get to your table very easily and cheaply; what is important is to relate this information to other such information and experiences and make more useful deeper meaning or knowledge. Hundreds of years ago, when mere gathering of facts was difficult and expensive, it would have been a great achievement to do so. Despite years of social and technological changes, we still have roots of assessment focusing recall of facts in a number of learning environments. We probably are giving in to years of traditional practices rather than being reflective on our practices.

Another important aspect of assessment is the time factor. One of the predominant approaches is to conduct a timed examination at the end of the learning period. Due to practical difficulties of conducting assessment under examination conditions, we usually have a limited time for assessments. The dominant negative aspect in lieu of this is that we tend to overload assessment material into the scarcely available time period. We expect the learners to be robots rather than thinking human beings. Expecting learners to provide premeditated rapid answers in all situations cannot be adequately justified.   Human brain is a parallel processor, not a serial or sequential processor similar to machine. Parallel processors consume more time for their operations compared to serial processors, or machines (Beale & Jackson, 1990). In setting times for a timed assessment, we need to allocate enough times for human brains to produce well contemplated answers. If the assessment focuses on facts, then we can argue that memorised facts can be reproduced on the paper relatively quickly mimicking a serial processor operation.   But for an assessment focusing deeper understanding, it is important that we allocate reasonable amount of time for construction as well as writing down of the answer. Considering all these limitations in timed assessment, it is always a good idea to include non-timed assessment component as part of learner evaluation. Especially when an assessment component is testing a specific knowledge area or application, we can allow learners to refer to as much material as available for them to come up with a good solution. Timed tests can generally and ideally be used to test basic understanding of some concepts, or generalised knowledge, rather than a particular application for which solutions can be premeditated, not open-minded. Further, we have evidence that visual spatial type learners tend to do badly on timed assessment despite possessing good abstract thinking skills (Silverman, 2002); it could be their open-minded and perfectionist approaches that hamper them down. Thus, carefully managing the time allocated for a test or examination could at least reduce the negative impacts on some learner category such as visual spatial learners.

Multiple choice questions are a common way of assessing learners. The main advantages of using multiple choice questions are that they can cover a wider area in the content and are less time consuming to mark. One of the major drawbacks of this technique is that, especially if not constructed properly, these questions tend to confuse the learners, or at least some perfectionist learners. That is, the learners can interpret the meaning of some statements in a number of different ways, yielding to incorrect or unexpected answers. Some statements we write might superficially mean one thing while considered deeply, or critically (Paul & Elder, 2000), may mean another. Such ambiguities can sometimes be very difficult to avoid. An individual who is naturally inclined to consider matters deeply, such as visual special learners, may find it difficult to come to a conclusion despite spending longer than usual time for answering. Multiple choice questions can usually be   set easily if the focus is on recalling facts, but as we mentioned, it is something we are trying to avoid. Another limitation of multiple choice questions is that we are trying to be objective in getting a preformatted answer from the learners rather than a unique answer constructed by the learner. In constructivist theory of learning, we highlight the fact that learners uniquely manipulate information in the learning process based on their personnel knowledge and experience; that is they construct meaning during a learning process. In the assessment, if we get the students to provide their unique authentic answers, instead of premeditated or memorised ones, it could result in a better assessment outcome.

The focus of assessment should be to evaluate how much generalised concepts or knowledge learners retain at the completion of the study period. In the process of generalisation, the learners abstract the commonalities from a set of available specific information or knowledge. Such generalised concepts or knowledge can usually be retained for longer periods and would be more useful in other areas of study or day to day life situations. It would be less ideal if we test the learners for the ability to recall or apply specific or narrow knowledge for a specific application that may have learned during the study period. Learners tend to forget specific or narrow knowledge gained during a study period very soon, probably within days or weeks; they may succeed in recalling and applying knowledge in an assessment just after the study period, but not beyond that. To improve the validity of assessment, our focus should be to test more generalised knowledge or concepts that learners can and will retain longer, possibly for months or years, and that would be useful more generally. In this way, we

encourage our learners to engage in learning in such a way that they can relate what they learn to more general situations or applications, as that is the focus of assessment.

Sometimes over a study period of a semester, or term, we introduce a number of many new learning materials or concepts to our learners, spending considerable amount of time, but focus of assessment could be restricted to only a few areas. In other words, assessment is not properly and fairly aligned to learning. Learners may have invested time on learning all areas presented, but would find that assessments are focused only on a few narrow areas or sections. We should try to avoid such situations as the evaluation results may not reflect learner understanding accurately. We may also fail to get the attention of the learners on some important sections of the subject, or may inadvertently direct them to learn strategically to purely get through the assessment. Basically, we need to align assessment to learning properly. Ideally, we should construct assessment constituting material or sections in proportion to the time we utilise to introduce and make the learner understand the same. In this way, we tend to introduce the most important sections or concepts in the subject area, spend a reasonable of time on them in making the learner understand and then follow it up with an evaluation in the assessment. This contrasts from setting up the assessment from only the areas, or sections, preferred by the facilitator or the facilitator is more comfortable in setting up questions. Such practices make assessment more consistent and fairer. Some learners with perfectionist attitudes, such as the visual spatial learners, will be disadvantaged if we are not consistent with the assessment material selection in regard to the time we spend on elaborating them; such inconsistencies direct learners to take a strategic learning approach, which is not the usual preference for visual spatial learners.

2.4 Need to Have a Balance in Theory and Practice

We have learning environments in which attention is not paid enough for finding a balance between the theory discussed and practical work attempted. Understanding the theory usually requires good abstract thinking skills and practical work attempted should ideally help in deepening the understanding of the theory.   In other words, the practical work attempted should be directly related to the theory discussed in the learning process. In a number of situations we may find that theory and practical work are two disjoint subsets. We should not fill the learning schedule with only somewhat related practical work that does not enhance the understanding of abstract theory. Usually practical work can be attempted by following step by step instructions, or following a live demonstration, but understanding an abstract theory can be more absorbing. If we heavily load a learning environment with practical work with little theory, we may be imparting very narrow set of skills for a specific application. These skills might not be very useful in the longer run or in a different environment or application. We are not giving much attention to generalised knowledge or concepts that could be useful in the longer run or different situations.   If we overload a learning environment with theory with very little practical exposure, the learners may find it hard to understand or digest high level of abstract theory; they may find it difficult to use the theory discussed to other related areas of study or other applications.   In the event that practical work cannot be undertaken in a laboratory, environment due to various reasons, similar examples such as simulations and/or case studies can be put forth for learners to digest abstract concepts. Modern computer video and graphic applications provide immense promise in this regard. Participation in practical work may be ideally assessed as part of formative assessment, as mastery of practical skills usually requires longer time and repetition. However, abstract thinking skills related to theory need to be ideally assessed using summative assessment methods, as grasping of fundamental knowledge in any area of study is very important. It is important to understand that even though well-developed practical skills would yield employment for individuals, within an authentic framework we see education in a broader sense, with better personal development on the whole, helping individuals to take better decisions, not only in professional lives, but also in day to day social operations. The significance of this balance between theory and practical work is highlighted in Kolb's Experiential Learning Cycle. In that, learning is completed in four cycles, namely, concrete experience, reflective observation, abstract conceptualisation and active experimentation. Concrete experience and abstract conceptualisation related to a certain learning activity plays the role of two important phases in the complete learning cycle. A balance in theory and practice in an educational course would help both the visual spatial leaners and auditory sequential learners in getting a better understanding, rather than being biased towards one or the other category.

2.5 Not to Be Predominantly Didactic

In a large number of learning environments, we still practice didactic approaches to teaching. That is, a teacher communicates with a mass audience mainly in a one way manner in a rapid tone. We do not allow learners to reflectively construct meaning authentically, or uniquely, based on his or her background and experiences. Instead of providing enough time for learners to construct meaning from the information provided, we expect

them to commit facts to memory superficially, or robotically. Didactic approaches might suit if our main concern is to pass information or facts to our learners. We cannot deny that some social situations require us to follow such practices.   As we have argued throughout, the purpose of education is to make, or helping to make, lasting impressions in learners mind. To recall, human brain is a parallel processor and operates comparatively slower than machines that are capable of doing repetitive, more specific tasks much faster. Instead of using a didactic approach to transfer information, we can use a dialectic approach to teach. In that, we promote a two way communication or discussion; the learner may not necessarily question the facilitator, or teacher, but he or she may question himself or herself, contemplate more and involve more actively during the teaching-learning session. Even more importantly, we give learners adequate time to construct meaning authentically. The knowledge they construct this way is likely to make lasting impressions in their heads. Recalling again, studies in neuroscience prove that learning has physical meaning to it, in that brain cells grow making a denser neural network. Deep engagement viewing from multiple perspectives, utilising enough time, in the teaching-learning process helps achieving this important cause.

From another point of view, visual spatial learners, whose psychological and neurological characteristics we have gone through so far, are more negatively impacted when didactic approaches to teaching are practiced. They could relate things learnt in pictures or objects and a didactic approach would discourage them from attempting it; their learning process could get inhibited in an alien environment to them; in other words, rote learning practices impact much more negatively to visual spatial, or gifted learners. Research findings indicate that one third of learners are more inclined to have bias toward visual spatial abilities; this is too large a portion to be allowed to be gravely disadvantaged. Dialectic approaches allow us to be more inclusive in our practices. We become authentic educational practitioners in addressing psychological and neurological needs of our learners. Even auditory sequential learners would benefit from fundamentally correct pedagogical practices when we use dialectic approaches of teaching. Modern technology also allows using appropriate visual aids in promoting dialectic approach to teaching.

2.6 Not to Have Non-Educational Organisations Setting the Agenda

In current practices, it is not uncommon that educational institutes or units play a second fiddle to industrial or professional bodies. Industrial or professional bodies tend to impart guidelines lacking multidimensional perspectives; for them the profession or the industry is more prominent than the learner as an individual, or human being. In an authentic education framework (Watagodakumbura, 2012; 2013), we give due recognition to the individual as an authentic personality; it is more important for this framework to develop a balanced, authentic personality than to train him or her for a specific industry or profession needs. It is possible that an individual changes his or her industry or profession a few times during the career span. As a result, it is important for an individual to get an opportunity to develop authentically to his or her natural instincts, to a higher potential level; getting trained in relation to the specifics of an industry or profession becomes secondary. In an authentic education framework, learners get to know themselves, their likes and dislikes, strengths and weaknesses better helping them to look for a specific work category, even within a broad industry or profession, to match the requirements. An authentic education framework is more fundamental and root in helping individuals to develop authentically within a society (Watagodakumbura, 2012; 2013) than the possible guidelines set by industry or professional bodies with possible vested interests. That is, an authentic education system promotes the development of the person to his or her full potential, good citizenship with the highest priority, delegating the other industry or profession specific skills development to a secondary level. If an industry or professional body employs an individual, it should be up to them to negotiate with the probable employees to urge them to develop and enhance industry or profession specific skills. It is improper and unjust for industry or professional organisations to expect the learners to have mastered industry or profession specific narrow set of skills as part of their education. It should be the responsibility of the industry or professional organisation to motivate learners to develop additional, more specific skills, weighing in the future prospects of the industry. Unlike the current practice of looking at an extrinsic testimony, they should be looking at the generic attributes highlighting intrinsic characteristics of the probable employee to match the requirements of the position. Further, these specific skills development should not restrict the individuals to one-sided, or one-dimensional, developments as it would limit authentic personal development as a whole human being. The industry and professional bodies need to be aware and understand their social responsibilities to help individuals to develop to their full potential when imparting guidelines for education.

2.7 Need to Overcome the Lack of Focus in Higher Order Learning

As highlighted in the assessment issues section, the focus of learning needs to be beyond pure memorisation of facts, or information. Just because we encounter situations in our day to day lives that we can make use of memorisation of facts usefully, we cannot justify it being used as the focus for learning in many educational environments. We see education more broadly, something that helps individuals to reach their authentic, or unique, full potential, maximising the level efficiency of their social operation. When we try to understand what higher-order learning is, Bloom's taxonomy is a very useful tool to employ digesting it (Biggs, 2003; Entwistle, 1998). At the lower end of the spectrum we have remembering and mere comprehension and at the higher end of the spectrum we have synthesis and evaluation; in the middle level, we have application and analysis of knowledge. Though most of us understand the essence of this classification, there might be significant differences in the way we apply it to learning and assessment. One common understanding would be that we can use the lower end of the spectrum for relatively lower years of learning while the higher end of the spectrum can be used for higher years of learning. For example, for undergraduate students, we may use a lower level of the classification and for postgraduate students we may use the higher end of the classification. The author argues that this is an incorrect simplification, and for all years, or levels we need to focus mainly on the highest end of the spectrum, even though we may make use of the other levels of the full spectrum. That is, at any year, or level, we may have learners who would like to get the comfort at the lower as well as higher level of the spectrum, for various reasons; our duty, as educators, should be to push everyone towards following higher end practices, and thereby for higher order learning. We also have to use the Bloom's taxonomy as a tool for identifying intrinsic learner characteristics, but not just to discriminate one end at the expense of the other. In the section highlighting the balance of practical work and theory in a learning environment, we pointed out the significance in practical work even though on Bloom's spectrum they may fall towards the lower end; in a practical work session, we may mostly follow some instruction to accomplish a task and may not have engagements related to synthesis and evaluation. But we engage in practical work in a learning environment to enhance our understanding on abstract theories. We also pointed out that assessment on practical work may even be of formative type. To recall, we have both auditory sequential and visual spatial learners and implementer and integrator type work in our society. We accept their unique contributions to our social operations; the balance of the society is maintained due to the unique operations of all categories. However, in a learning environment, we attempt to give mixed exposures to all learners; that is if an individual is identified to prefer a learning context highlighting lower end of the spectrum, we encourage them to take special measures in practising learning contexts at the higher end of the spectrum; we do this because it will be useful for an individual to develop skills pertaining to both ends of the spectrum, in their social operations. Another limitation of our current practices is that we tend to set a lower ceiling of the spectrum to our learning and assessment environment. That is, we may focus on analysis or application as the highest possible level in the teaching-learning practices, disregarding higher levels of synthesis and evaluation. In any arbitrary learner cohort, we may have learners with characteristics preferred to either higher end of the spectrum or lower end of the spectrum; if we set a ceiling at a middle level, we are disregarding some learner category. This is something we are trying to avoid in an authentic education framework (Watagodakumbura, 2012; 2013); we endeavour to give every learner an opportunity to develop their authentic characteristics, to make them at ease with their natural innate psychological and neurological characteristics. We also have a common inclination to assume that highest end of the spectrum, namely synthesis and evaluation, can only be applied to research education; the author argues that this is really not the case as we can look for creative answers learners provide especially for open-ended question we use for assessment. Further we can encourage and provide an appropriate environment for learners to develop open-minded thinking in the learning process and to provide authentic, or unique, and creative solutions to possible open ended questions we set. Despite our inclination to accept relative difficulty on conducting courses in hard science areas with a focus of enhancing learner creativity, the author argues we still can achieve that on a properly set and focused curriculum.

2.8 Need to Overcome the Lack of Attention to the Time Factor in Learning

In our current practices, one of the most common limitations would be not giving enough attention to the time factor, irrespective of whether it is on assessment or the whole teaching-learning process. One significant point we need to highlight here is that the human brain or the neural system is a parallel processor. It takes in a large number of inputs and attempts to recognise patterns in a learning process based on feedback cycles to produce the output (Beale & Jackson, 1990). This process usually takes more time than serial processing in which relatively less number of inputs is taken in, send them through a number of repetitive processing cycles rapidly, before producing the output that is very precise in nature; typical computers or machines operate in the latter manner. We tend to disregard this significant difference in how the human brain operates and how typical

computers, or machines, operate in our practices in teaching-learning; in our teaching learning environments we need to provide enough time for human brains to absorb information and engage in a learning process, or constructing meaning, before giving the output. For this very reason we highlighted the importance of using a dialectic approach ahead of didactic approach in a teaching-learning environment. We allow and encourage learners to construct meaning in a learning process, considering all the inputs they take in, rather than merely committing to short term memory. We need to provide as many related and useful inputs as possible along with adequate time for them to construct meaning and produce a lasting learning outcome. We can direct human brains to focus on what they are good at doing and get typical computers, or machines, to do what they are capable of, with a clear distinction. There is no benefit in trying to force human brains to emulate machines in the face of process automation tasks that make routine human labour redundant, a trend observed in the recent past.

In a similar manner, when assessing student learning, we need to provide them enough time to construct the solution based on the given number of inputs. We are stressing here the point that the assessment we mention is not based on mere recalling facts; recalling facts can probably be done rapidly, if they are committed to short term memory and the nature of the assessment requires such practice. As we pointed out in the assessment issues section, merely testing the learners' ability to recall facts would not constitute a proper assessment, or educational experience (Biggs, 2003; Ramsden, 2003). Also, when learners construct their answer, we need to give them enough time to write them down on the paper. If we do not give enough attention to these timing factors when setting up assessment, it is possible that learners perform badly in the assessment not due to their lack of deep learning, but due to the way the assessment is structured. Even worse, some learner categories such as visual spatial learners tend to get more disadvantaged in these circumstances than others; they perform relatively badly on timed tests.

We can have another viewpoint on this timing factor in the following manner. Usually, if we keep on practicing the same thing for a longer period, we tend to improve on the time taken to complete it. Sometimes these improvements can be seen over many years. However, in a typical learning environment, learners take up a course for a period of a few weeks. They might be taking a few other similar courses in parallel as well in a programme of study. Consequently, it is not appropriate for us to expect learners to reach a speed that would be demonstrated by one with years of experience. We have to be realistic in the speed, or the response time, in which learners could provide answers after a study of a few weeks. We highlighted this point here because it is not very uncommon that learners comment on insufficient time for completing an assessment in many teaching-learning environments.

2.9 Need to Overcome the Lack of Focus in Learner Motivation Level

Sometimes, the performance of the learners is hampered due to lack of learner motivation level (Maslow, 1987). We will have learners who just need to get through a particular course with a pass or merely taking a course because there are no better alternatives; it may be that the particular course is not in their main interest list, or their focused career paths. Even we may not know how many of the learners taking the course would end up following a career path highlighted in the subject area. It is not uncommon that we get to hear from past learners about some of the courses they have undertaken, covering very narrow specific material, have never been used, or being useful, afterwards. Disregarding these facts, we may conduct the course in a narrow way, targeting more specific knowledge areas and applications. In general, we can increase the level of learner motivation by structuring the course with a focus to generalised, or broader, knowledge or concepts. Such generalised knowledge or concepts highlighted in any course would be more useful for learners in a general way, probably in learning other courses or in day to day life situations or personal development. Also, such generalised knowledge or concepts will last longer in the minds, increasing the usefulness. To achieve this, we can relate the subject matter highlighted in the course to more generic applications or situation, rather than the subject specific ones; then we can construct the assessment having this focus in mind as the learners are usually guided by the assessment. If the learners are convinced that a particular course would possibly help them in a more generic way, irrespective of their career or personal interests, they would be more motivated in investing their time to learn it. Generally, the higher the level of motivation, the more the effective time spend on learning it, possibly yielding better learning outcomes or objectives. Thus, as educators, it is now our responsibility to present the contents in a more generalised manner, making them more useful in a wider range of applications.

2.10 Not to Have over Reliance of Education on Socio-Economic Conditions

Our contemporary education system is entangled much with the socio-economic conditions of the individual families, communities and larger societies. The drawback of this situation is that individual intrinsic learner

characteristics get supressed by the more extrinsic measures of socio-economic conditions; while low-socio-economic conditions would typically restrict the opportunities for learners, overly satisfied socio-economic conditions would reduce the motivation level (Maslow, 1987) of learners. In such an environment, it is difficult for us to focus on authentic education fulfilling individual learner needs. We tend to provide an education we assume fits everyone equally, disregarding intrinsic individual learner characteristics. Subject to the prevailing socio-economic conditions, we push everyone in the community or larger society along a sole path that is presumed to meet the community or larger societal needs rather than individual learner needs. The learners will not have a preference to choose their direction of learning; instead they will succumb to the pressure from the society to make selections less ideally. These situations are more prevalent in highly competitive societies, with highly negative impacts in terms of sustainable social developments; the typical practices of these environments usually lead to maintain the existing status quo, despite unsustainable, rather than providing means of coming out of the entangle, in the direction of sustainability. Over reliance of education on socio-economic conditions more explicitly have a negative impact on visual spatial, or gifted, learners as their vulnerabilities such as high emotional overexcitabilities get more exposed to less than ideal conditions. It is not uncommon to find in the literature on the gifted how these delicate individuals get destroyed by highly competition oriented societies (Webb, 2008; Silverman, 2004).

3. Conclusion

This paper highlights some common but subtly understood limitations of our general pedagogical practices. Essentially, we try to 'one size fits all' approach to education disregarding more specifically the concept of neurodiversity. The direct link between learning and learner motivation level and the need to disengage the link from learning and socio-economic conditions are highlighted. Some difficulties in utilising higher-order learning when organisations outside the discipline of pedagogy involve in setting up curricular are also pointed out. Further, deficiencies in some of the long standing practices such as didactic approaches, lack of attention to time factor in teaching-learning processes as well as assessment are highlighted. The importance of giving careful consideration to them through reflective practices is emphasised. New knowledge emerging from the disciplines of neuroscience and psychology can be used to direct us in this regard. By doing this, we are able to give our learners a more authentic learning experience in a fairer and more just manner.

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