

# Teaching and Assessing of Affective Characteristics: A Critical Missing Link in Online Education

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## **Abstract**

Online education, which is as a platform for delivering educational content and facilitating instruction – student interaction over a computer network came into limelight in the 1990's and has been growing rapidly ever since. 96% of Universities in the United States of America currently offer online learning opportunities; with more than 3million students enrolled. In addition, several colleges and universities around the globe now offer degrees that can be accomplished online. The promise and potential of online education is laudable; it has the ability to make education more convenient and accessible. Advances in technology have made this possible since learning can take place “asynchronously” anytime and anywhere. However, studies have shown that teaching and assessment in schools;within the in-class, blended and online set up, are concentrated on cognitive achievement to the detriment of affective and psychomotor development of learners. In the light of this, and because of the fact that comprehensive assessment is an indispensable aspect of any meaningful educational program,attempt is made in this paper to examine the implications of the aversion to the teaching and assessing of affective characteristics in online education. The paper also makes strategic suggestions as a way forward

## **Key words**

Affective, cognitive, assessment, in-class, online educators, online learners

## Introduction

Online education has grown significantly over the past ten years. Due to the rapid adoption of electronic communication and media, many educational institutions are delivering a large portion of their classes and curricula online. It is predicted that online course enrolments will continue to grow in all sectors of education (Allen & Seaman 2008). According to Ebersole (2007), in a society where people are changing jobs and careers more frequently, while simultaneously raising families, online learning is emerging as one essential and sensible alternative. Online students are not just adults aiming to bring about professional development but also young people. This fact has aroused the interest of a large number of institutions, which offer courses in the form of blended learning models, a combination of face to face and online systems, or totally online, which offer flexible and choice options that are more and more adaptable to the objectives and interest of students of all ages and cultures who live anywhere in the world.

Though on-line education is a relatively new but promising development, there are cautionary notes from some researchers concerning this innovation. For example Capra (2011) observes that while the promise and potential of online education is impressive, it is not without unintended negative consequences. Drago and Warner (2004) submit that "on-line education is here to stay", they however argued that if quality education is expected through this mode of delivery, its relationship to various learning styles should be investigated.

Furthermore, Reeves (2006) points out that the success of any learning environment, including e-learning, is determined by the degree to which there is adequate alignment among eight critical factors: 1) goals, 2) content, 3) instructional design, 4) learner task, 5) instructor roles, 6) student roles, 7) technological affordances, and 8) assessment. However, Reeves and Hedberg (2003) highlight the fact that the evaluations of traditional, online, and blended approaches to teaching indicate that the most commonly misaligned factor is assessment. In the same vein, Sperber (2005), Saxon and Calderwood (2008) among other researchers confirm the observations of Reeves and Hedberg (2003) in their submission that most instruction in higher education is focused on the cognitive domain to the exclusion of the affective and the psychomotor domains.

Following the aforementioned observations and cautionary notes, coupled with the fact that online education continues to gain momentum and captivate the interest of more people by the day, this paper examines the implications of the absence of teaching and assessing of affective characteristics in on-line education. In setting the background therefore, attempt is made to clarify the concept of affective domain, trace the origin of affective education and also highlight the taxonomy of affective qualities.

## Concept Clarification

Birbeck and Andre (2009) rightly point out that the affective domain is a vague concept that could relate to at least three different aspects of teaching and learning. According to them, the affective domain firstly could be about the teacher's approach to teaching in terms of Philosophy and what this communicates to the student. In this case, the affective domain relates to the way in which the teacher interacts with students to establish a relationship.

Secondly, the affective domain could be about stirring up the affective attributes of students as a deliberate form of engagement. The essence of such a method could be to show disapproval or annoyance at an act of injustice and by so doing, some students may be encouraged to take a greater level of participation. With the first and second perspective of affective domain, the onus is on the teacher to establish the learning environment. It is expected that students will respond positively or otherwise. However, they do not initiate. Thirdly, the affective domain could be about learners being engaged with the development and understanding of their own motivations, attitudes, values and feelings with respect to behavior as a citizen and a professional. The discussion in this paper is based on the third perspective.

### **The Source of Affective Learning**

Affective learning characterizes the emotional area of learning reflected by beliefs, values, interests, and behaviors of learners (Krathwohl et al, 1964; Smith & Ragan, 1999; Gronlund&Brookhart, 2009). Affective learning is concerned with how learners feel while they are learning, as well as with how learning experiences are internalized so they can guide the learner's attitudes, opinions, and behavior in the future (Miller 2005).

There are two main schools of thought concerning affective education. The first school of thought maintains that the content of affect (values, morals and ethics) is found in sources external to human experience. This idea has its source in the philosophy of Realism and Idealism as well as in Religion .According to this school of thought, beliefs; values are to be found in divine inspiration and the wisdom of the elders over the years. For example individuals of the Christian persuasion accepts Gods commandment by faith, reason being that the source is seen as supernatural and that God is sovereign. Other injunctions that have been in operation for years are also accepted based on culture as lay down by the elders. In the field of education therefore, when beliefs are identified, it is expected that these beliefs be inculcated in the learners and the learners' be made to comply. This is an absolutist affective education and it works through indoctrination. The second school of thought maintains that the content of affect should be derived mainly from the analysis of human experience. This view has its source in the philosophy of Pragmatism enunciated by Dewey (1939). According to this school of thought, values are developed as the individual or group goes through a process in stages. These stages as put forward by Dewey for the individual or group are:

1. Interact with the environment
2. Reflective thinking on the meaning of the interaction
3. Based on the reflective thought, formulate values or beliefs
4. .Based on reflective thinking apply the formulated values to new situations

As reflective thinking continues concerning the new situation, the original values or beliefs will either be reconfirmed or changed. This school of thought does not envision a society of entirely autonomous values (Raths 1975) but emphasis the capacity of human beings to engage in meaningful reflective thinking. Within the context of the school system this view leads to developmental affective education. What the school does therefore when operating on the basis of this view is to guide learners to come up with values or beliefs through reflective thinking and also encourage learners to embrace values that are fundamental such

as the right to human dignity. This conception of affective education has a lot in common with telonomic position put forward by Phenix (1969) with his emphasis being on the need for schools to promote a lifelong enquiry for values through critical thinking. Similarly, Rath's values education (1978) and Kohlberg's moral education (1978) can be traced to this conception of affective education.

Apart from the absolutist and the Pragmatic views, another conception that one cannot ignore in any discussion of affective education has to do with the psychological theories of Carl Rogers, Abraham Maslow, Earl Kelley and Arthur Combs (1962). These emphasize the cardinal role of personality and perception in learning. They recommend that priority attention be given to self concept, interpersonal relations and the discovery of personal meaning in the curriculum. Within the school system, this view is generally known as humanistic education. The work of Rath (1972) on emotional needs and that of Combs (1972) on value development reveals a similarity between developmental education and humanistic education. A major difference however is that Dewey and the members of his school of thought place emphasis on social development whereas the humanistic psychologist place emphasis on personal growth. Developmental affective education therefore is based on the works of John Dewey and that of the humanistic psychologist.

### **Taxonomy of Affective Qualities**

Krathwohl et al (1964) proposed a five level taxonomy of the affective domains arranged in a hierarchy according to complexity.

The first level of the affective taxonomy is referred to as "receiving". At this level, the learner is aware of the topic, stimuli, event or issue and is willing and ready to learn about it or respond to it. It follows therefore that in order to progress in the taxonomy; a learner must be aware of and attend to the issue or event in question. Where the learner fails to receive information, progress on affective hierarchy becomes stocked. A common example of this level of affective learning is class attendance and concentration during lectures at school. During the process of "receiving" the learner comes across new ideas and makes effort to understand them.

The Second level, "responding" ranges from compliance by voluntary response to having a sense of satisfaction in doing what is required. For example, a learner obeys class rules and regulations, complies with teacher's instructions and participates in class activities as required.

The third level is referred to as "Valuing". At this level the learner voluntarily manifests behaviors that are consistent with certain beliefs. For example, when a learner demonstrates kind gestures towards others, comes punctually to school, does and submits assignment as and when due. Students demonstrate "valuing" when they consistently prioritize time effectively to meet academic obligations and when they, for example, practice the safe handling of equipment and materials in a laboratory science course throughout a semester (Gronlund & Brookhart, 2009).

At the fourth level of the taxonomy; "Organization" the learner organizes a set of values into a value system (i.e. the learners general set of values) that are used to respond to diverse situations. Gronlund (1991) confirms the increasing complexity of this form of learning in his

observation that: “as affective outcomes move from simple to complex, they become increasingly internalized and integrated with behaviors..... to form complex value systems and behavior patterns” (P.55)

The fifth level and which is the highest level in the hierarchy of affective taxonomy is “characterization by a value or value set” and this occurs when a student’s behavior is consistent and predictable as if it has been adopted as a life style (Gronlund, 1991, P. 34). In other words, the student has internalized the values to the extent that they characterize him or her.

### **The Aversion to Affective Domain in Online Education: Some Implications.**

Though in existence for long, affective learning taxonomy has neither been recognized nor used in curriculum development to the same degree as the cognitive taxonomy. There are numerous factors that contribute to higher education’s collective aversion of the affective domain (Pierre &Oughton, 2007). A school of thought opines that affective learning is a byproduct of cognitive learning and for this reason it is argued that affective learning outcomes do not need to be indicated, taught, or assessed separately. Furthermore it is maintained that there are in fact, close parallels between Bloom’s taxonomy for the cognitive domain and Krathwohl’s taxonomy for the affective domain (Smith &Regan, 1999) and because of this, special attention should not be give to the affective domain. Further challenges in affective learning and assessment is said to arise from difficulties in precisely stating desired affective learning outcomes because they involve opinions, beliefs, and attitudes (Bloom et al 1956; Smith and Regan, 1999).

Yet another School of thought that seeks to explain the lack of attention given to the affective domain maintains that the cognitive domain is intuitive in that it seems to make sense to concentrate on the body of knowledge, makes sense for students to develop problem solving skills and to critically question science and society and makes sense to have graduates who have the capacity to develop creative response to difficult and complex problems (Krathwohl et al, 1964; Pierre &Oughton, 2007). It is also argued that the cognitive domain is relatively easy to assess and to apply sound assessment practices like moderation to ensure some level of objectivity and fairness (Pierre &Oughton, 2007). On the other hand the affective domain is said to be contentious raising all manner of fundamental challenges and questions that go to the very heart of the purpose of education at a tertiary level and asks hard questions about social and cultural power in education, such as:

- How does one judge intrinsic qualities such as values, motivation, feelings and attitudes
- Is higher education an appropriate place to develop qualities such as hard work or having a goal?
- If so how should they be assessed?
- What will be used as a standard upon which one judges?
- How does one ensure any sense of validity and transparency?
- How can one tell if students are authentically displaying these intrinsic traits and not just “playing the game”? (Birbeck. & Andre (2009)

Again, and in a sense most pervasively, affective learning in traditional and online education has suffered from benign neglect, wherein faculty have failed to identify and describe their legitimate aims for students' affective learning (Colby & Sullivan, 2009; Pierre & Oughton, 2007; Shephard, 2008). Shephard further submits that some individuals avoid specifying student affective learning outcomes because they are afraid of being accused of indoctrination or brainwashing.

Plausible as these arguments may be or seem to be, one opines that they do not justify the apathy concerning affective education and its assessment in online education. According to Stiggins (2005, P.199 – 200), "motivation and desire represents the very foundation of learning. If students do not want to learn, there will be no learning. Desire and motivation are not academic achievement characteristics, they are affective characteristics". This being the case, the only avenue of working on learners' desire and motivation has long remained unattended to in online education. Nolting (2007) points out that performance in Mathematics has almost as much to do with students' attitudes and beliefs as it has to do with their mathematical knowledge. Mathematics and the sciences have for many years been seen as dreaded areas by many students and the situation is still the same. More often than not, the blame is on the "innocent" students while not many are ready to admit the fact that the curriculum is lopsided and the students' negative attitude could also be due to this.

At all levels of online education there is the possibility for the level of interest in learning and the desire to excel academically to diminish over time. While some learners do drop out of online education program for inability to see the relevance in the curriculum, some of those who succeeded in completing the program do end up totally disengaged from the educational process for the same reason. This is also one of the implications of the absence of teaching and assessing of affective characteristics embedded in the curriculum. Such assessment if put in place would enable online educators to keep regular watch on students' beliefs concerning their ability to meet educational objectives and standards as well as the students' attitudes concerning the relevance and importance of the content they are learning. Affective construct therefore puts the online educator in a good position to identify on time students with the likelihood of dropping out of the system. Since not much use is being made of the affective construct, a lot of casualties continued to be recorded by way of learners dropping out of school or losing interest after completing a segment of the educational system successfully. For example, According to Aragon and Johnson (2008) Institutions of higher Learning, particularly Community Colleges report that withdrawal rates in online courses have surpassed traditional courses by at least 20%. Similarly, Capra (2011) observes that for many institutions, online education is creating an interesting paradox; growing demand and enrolment coupled by higher withdrawal and failure rates.

Popham, (2011, P.233) argues that the reason such affective variables such as students' attitudes, interest and values are important is because they typically influence future behavior. He highlights further that it is necessary to promote positive attitudes towards learning because students who have positive attitudes towards learning today will be inclined to pursue learning in the future. It follows therefore that where the machinery through which the affective status of online learners are not put in place it becomes practically impossible to know how students are predisposed to behave in subsequent years. This is the prevailing scenario within online education system and the implication of this is

that the online learners who would have been helped while still within the system lost the opportunity because there was no way of knowing their affective status.

Ideally, Education is to equip the learner for citizenship and citizenship precludes an individual who is not just able to read, write, carry out mathematical operations, think critically, be an effective employee or employer but also possess a general sense of social responsibility. However, for many years now, looking at the products of online education, a learner with pass marks in his or her courses/program of study receives a certificate at the end of the course no matter how "unruly" he or she may be. This is all because the affective traits do not count towards obtaining a certificate. Apart from the certificate that shows academic attainment, Institutions operating online programs do not issue any document that shows affective characteristics and such document with Institutional authentication is not required in the job market either. To some extent, the 'moral complications' in the society can be traced to this.

Griffith & Nguyen (2006) rightly liken the cognitive domain when focused upon alone in the curriculum at the expense of the affective domain to a skeleton without the skin. Strangely enough that is what the curriculum of online education has continued to be for years. It is frightening to imagine the impact that such incomprehensive curriculum will have on the society in the distant future going by what is all over the place now. Olubor & Ogonor (2007) carried out a study that hinges on production theory. The crux of the theory is that within a learning environment, if the change agents adequately process the inputs into the system the desired output can be attained. In online education, the online teachers and pupils are both the inputs while the online teachers are also the main agents in the processing stage. The ability of the online teachers to successfully carry out the processing stage diligently, determines the expected output which in the study is the good citizen. They however submit that citizenship education can best be taught by using teaching methods in the affective domain. They correctly observe that this is the right approach to the acquisition of learning which has to do with values, beliefs, attitudes, social relations, emotional adjustments, habits and life styles. While a pressing need and the pride of every nation is good citizens in increasing number, paradoxically the only viable means of attaining this; the teaching and assessment of affective characteristics is not receiving the necessary attention in online education. This explains to some extent why the cry for good citizenship in many nations is not bringing in the expected result.

Even with the focus on the cognitive domain, our schools are still producing many students that fall short in this area. The biggest critics of today's educational system are the business community and those who have graduated from in-class education and or online education program. Though many of them also passed through both or either of the educational programs, they can now see that the programs are not actually giving those passing through them what it takes to actually perform excellently out there in the wider world. As Griffith & Nguyen (2006) point out, "what good is the acquisition of a vast range of academic skills if we are unable to integrate them?" They observe that students need to be able to communicate value, organize and characterize, to effectively utilize and make sense of what they have learnt. These however are affective characteristics. This being the case, it is extremely difficult, if not totally impossible to attain maximally in the cognitive domain

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unless the complementary skills in the affective domain is not only taught well but carefully developed.

Sumsion and Goodfellow (2004) in their work mapping generic skills across a number of curriculums articulate their concerns with what they describe as “unproblematized accounts of the development of generic skills and qualities” (P330). They claim that the skills that one might develop in an environment such as in a Higher Education setting might not automatically transfer to other settings. Furthermore, they assert there is a difference between capacity and competence such that “—capacity extends beyond competence; it involves an ability and a willingness to apply understanding, knowledge and skills to unfamiliar contexts and unfamiliar problems (P.332). Precisely, the argument is that while cognitive skills may be developed well enough in online education, unless the student has certain affective capabilities they are less likely to be able to use their cognitive skills and understanding across a range of environments. (Boud&Falchikov, 2006). Consequently, there must be an explicit relationship between cognitive learning, assessment and “capability” (Sumsion&Goodfellow, 2004).

Crebert, Bates, Bell, Patrick and Cragolini (2004) claim that a student’s ability to integrate and demonstrate generic skills across contexts “Requires ethics, judgment and self confidence to take risks and a commitment to learn from experience” (P.148). *“The idea of skills, even generic skills is a cull de sac. In contrast, the way forward lies in construing and enacting pedagogy for human being. In other words, learning for an unknown future has to be understood neither in terms of knowledge or skills but of human qualities and dispositions”*. (Barnett, 2004, P.247). In ‘Learning for an unknown future’ Barnett (2004) states that a being capable of thriving with uncertainty needs dispositions; “Among such dispositions are carefulness, thoughtfulness, humility, criticality, receptiveness, resilience, courage and stillness” (P.258). The reality of the submissions of Crebert et al & Barnett can be seen in the common cases of graduates from online education with certificates showing brilliant academic attainments but who cannot “actually deliver in the society”.

The cognitive and the affective domains are interdependent. For this reason, focusing on cognitive constructs to the exclusion of affective construct in online education can only unavoidably lead to an incomplete educational experience for online learners and this has been the situation in online education for some time. The implication of this, among other things is that we have online learners for example with an advanced knowledge of their specific fields and with great abilities but with little or no regard for their professions or the ethical standards that govern them. Educators can only foster the desired positive change in learners’ dispositions, attitudes, values and ethical perspectives by obtaining necessary information through a diligent and consistent assessment of the affective domain. Incidentally this is the domain that has been left dormant for some time now in online education. The essence of assessing dispositions is to ensure that the online learners have positive productive attitudes, values, etc so that online educators can capitalize on these, work on them to bring about increased attainment on the part of online learners. Where the assessment reveals negative feelings, the onus is on the online educators to labor for necessary educational experiences that will bring about the anticipated positive dispositions.

Krathwohl, Bloom & Masia (1964, P.60) in their seminal work describe the affective domain by contrasting it with the cognitive domain thus: "In the cognitive domain we are concerned that the student shall be able to do the task when requested.. In the affective domain we are more concerned that he does do it when it is appropriate after he has learned he can do it" Krathwohl's definition is shows that the emphasis in the affective domain is : "did you" or didn't you" when you knew how? . With this definition the problem of subjectivity is totally ruled out. Birbeck (2008) gives a practical application of Krathwohl's distinction within the traditional classroom set up when he writes: " *I once taught Ethics to fourth year Education students. The final assessment asked the students to discuss their understanding of ethics and they were encouraged to use examples from their experiences on preceding practicum placements. One student wrote about how he came to believe that a student in his year two class had been sexually abused. He reported the matter to his mentor teacher and his ethical discussion in his essay centered on the fact that to his knowledge the teacher did not comply with South Australian law in terms of mandatory notification. What was not covered in the essay was that the student had completed his mandatory notification training and was under an equally compelling obligation as his mentor teacher to notify. Arguably, he had a higher obligation as it was his conviction of the abuse that raised the issue. ---He could have reported but he did not---he has not demonstrated that he has the capacity to protect his students; an expectation placed on his profession by society, his employer and by his profession*".

Applying Krathwohl's et al (1964) description in online education enables one to judge an outcome in the affective domain without necessarily occupying the untenable position of judging another's attitude, values, feelings or motivations. The judgment is carried out by aligning the student's actions with what is expected by the particular profession in question.. This is one of the things that the "abandoned" affective characteristics would take care when given the necessary attention in online education.

### **The Way Forward**

Effort has been made in this paper to highlight the fact that in online education, emphasis has been on instruction in the cognitive domain to the neglect of teaching in the affective domain. As highlighted in the paper also, several reasons have been put forward to justify this neglect. However,going by the implications of this continued neglect of the affective domain in favor of the cognitive domain as discussed in this paper, unless the necessary balance between the affective and the cognitive domains in online education is restored and the move started without further delay in a significant way, time will doubly prove the curriculum of online education to be grossly incomplete. Should this happen, then the implications that are emanating now as a result of the imbalance will only be a tip of the ice bag because by then the consequences would have become aggravated. The bottom line therefore is that the critical importance of affective learning in "whole person development" can no longer be ignored in 21<sup>st</sup> century online education.

If there will be appreciable result, then the modality of redressing the said imbalance between the cognitive and the affective domains in the curriculum of online education must be comprehensive in nature and properly coordinated by relevant authorities'.

In restoring the balance between the affective and the cognitive domains in online education, some learning and teaching activities can be used. These include: problem based learning,

group analysis of case studies, perspective sharing and reflection and the use of the multimedia to trigger responses. These activities, if well handled and integrated by online educators will go a long way in fostering the teaching and assessment of affective characteristics.

The measurement of important personal and social qualities, including affect, cannot occur directly. Unlike the measurement of height and weight, which involve the use of well calibrated and standardized tools that directly measure stable qualities, the measurement of temperament, personality, attitudes, feelings, emotions, and values may involve the use of tools that are not as well calibrated. However, despite these difficulties, progress can still be made can still be by using some less complicated methods such as, observations, interviews, self-report, questionnaires and surveys. Measurement generally is enhanced when information from various informed and knowledgeable sources is considered. For example, when working with adolescents, measurement of important affective traits may be enhanced by acquiring information directly from the target adolescents as well as from their parents and siblings, teachers, friends and other peers, together with others who are very close to them. The acquisition of information from other sources may be particularly beneficial when the traits being measured are displayed externally (as opposed to ones, like preferences, that are displayed internally).

Furthermore, an accurate understanding of one important trait is enhanced by information about various other important traits. For example, an understanding of qualities associated with extroversion-introversion generally is enhanced by knowledge of a person's age, gender, intelligence, achievement, language, self concept, and other important qualities.

Restoring and maintaining the balance between affective and cognitive domains in online education will amount to additional workload for online educators. It is therefore important that this onerous responsibility be adequately compensated for in terms of commensurate remuneration.

Institutional administrator of online education, online educators and assessment specialists will need work together and ensure that regular conferences, workshops and in-service trainings are carried out in the area of affective characteristics and their assessment within the framework of online education. The outcome of such exercise should also be strategically and wisely disseminated. The relevant authorities will also need to make available Research grants in the area of affective characteristics and their assessment in schools. To follow this up, Institutions and individuals are to be encouraged to apply for these grants and carry out in-depth Research that will further address current and anticipated issues in the area of affective education and affective assessment in online education. Some of the issues that online educators need to focus upon for solution include:

- What methods of affective education would be legitimate to adopt in a situation where young online learners do not have the capacity to think logically at higher cognitive levels?
- What happens if genuinely and carefully formulated values and actions go contrary to established values and traditions of Institutions offering online programs?

- What public value may be promoted within the scope of the law such that the rights of the learners and the rights of the society will both be protected?

These and many other issues about affective education and affective assessment in online education can definitely not be sorted out in one go. However the journey towards solution must start actively and in a coordinated and comprehensive way somewhere. If this is done, before long, the needed balance between affective and cognitive domains in online education will be restored and online educational experience will be complete and rewarding.

## Conclusion

Following the discussion in this paper, it can be deduced that affective education is a necessary condition for effective online education. In the light of this there must be a quick end to being enamored only with knowledge acquisition in online education. The impression that is long been given that cognitive thinking education is equal to academic courses devoid of affective education is misleading and should not become embedded in online education.

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