Outcome-based Education and Constructivism Synergy
Challenges and Possibilities

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Abstract

The author has discussed Spady's Outcome-based Education (OBE) which embodies the idea that the best way to learn is to first determine what needs to be achieved as outcomes of an educational programme. Once this is done, the strategies, processes and techniques can be put in place to achieve the targeted exit goal. It discusses the OBE philosophy, aims, principles, assessment criteria and benefits. Also discussed is the constructivist perspective as could be superimposed on OBE, and presents challenges and possibilities to focus on OBE using the lens of constructivism.

BACKGROUND

Education is a sub-system of social reality. Education does not happen in a real setting but operates in a contrived setting where different things are planned and provided to children by design. Thus, education is a process of planned interventions. Everything happens by design. Thus, it acts as a catalyst in accelerating the rate of maturation among learners. Education has the responsibility of providing what society wants it to give. In this backdrop, education is accountable and answerable to the society. Ultimately, education has the responsibility of preparing young students of the present society as

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useful adults who should contribute for the nation-building as well as make their life meaningful and rewarding. In this enterprise, there are a number of new thoughts and views which inform and influence us and also compel us to change. Education must be able to address to the needs of the changing society and its aspirations at large.

Currently, Outcome-based Education (OBE) has been adopted around the world, at different levels. Interestingly, this is one philosophy which has attracted the attention of functionaries both at school education as well as higher education. Australia and South Africa adopted OBE policies in the early 1990s but have since been phased out (Donnelly, 2007; Allais, 2007). The United States has had an OBE programme in place since 1994 that has been adapted over the years (Austin, 2014). In 2005, Hong Kong adopted an outcome-based approach for its universities (Kennedy, 2011). Malaysia implemented OBE in all of their public schools systems in 2008 (Mohayidin, 2008). The European Union has proposed an education shift to focus on outcomes, across the EU (European Commission, 2012).

Outcome-based education is chiefly associated with the seminal work of William Spady, a sociologist, who is considered the father of outcome-based education. OBE is referred to by over 20 different names, including Systemic Education Restructuring, Performance-based Education, Standards-based Education Reform, High Performance Learning, Total Quality Management, Transformational Education and Competency-based Education.

OBE is defined by Spady (1994) as a "...comprehensive approach to organising and operating an education system that is focused in and defined by the successful demonstrations of learning sought from each student".

According to Tucker (2004), "Outcome-based education (OBE) is a process that involves the restructuring of curriculum, assessment and reporting practices in education to reflect the achievement of higher order learning and mastery rather than the accumulation of course credits". Thus, the primary aim of OBE is to facilitate desired changes within the learners, by increasing knowledge, developing skills and/or positively influencing attitudes, values and judgement. OBE embodies the idea that the best way to learn is to first determine what needs to be achieved. Once the end goal (product or outcome) has been determined, the strategies, processes, techniques, and other ways and means can be put into place to achieve the goal.

Spady (2004) holds the view that OBE is an educational theory that bases each part of an educational system around 'goals' (outcomes). By the end of the educational experience, each student should have achieved the goal. There is no specified style of teaching or assessment in OBE, instead classes, opportunities and

assessments should all be based around helping students achieve the specified outcomes.

According to Killen (2000), "OBE, can be viewed in three different ways — as a theory of education, or as a systemic structure for education, or as classroom practice. Ultimately, we need to align the systemic structure and the classroom practice with the theory if we are to have genuine outcome-based education. We can think of OBE as a theory (or philosophy) of education in the sense that it embodies and expresses a certain set of beliefs and assumptions about learning, teaching and the systemic structures within which these activities take place".

He further says, "the quality of an educational system can be judged from at least three perspectives: the inputs to the system, what happens within the system, and the outputs from the system. Those who are interested in inputs will focus their attention primarily on finances, resources, infrastructure, etc., and may use economic rationalism as the basis for their judgements about the quality or value of the system.

Those interested in what happens within the system will focus their attention primarily on the processes used to organise, control and deliver education and training.

Those interested in outcomes will focus their attention primarily on the products or results of education.

It can be argued that all aspects of education are important and that quality should not be judged from any narrow perspective. However, in recent years there have been increasing calls in the Western society for greater attention to be paid to the outcomes of education so that the return on investments in education (particularly public education) could be evaluated. These increasing calls for accountability were one reason for the rapid spread of various forms of outcome-based education in countries such as the USA and the UK during 1980s and 1990s. In Australia also, the concept of educational accountability was one of the driving motives behind the introduction of OBE.

(A) OBE Philosophy

Spady (1994) proposes three basic assumptions: all learners can learn and succeed; success breeds success; and 'teaching institutions' (schools) control the conditions of success.

Killen (2000) defines two basic types of outcomes. The *first* includes performance indicators often measured in terms of test results, completion rates, post-course employment, and so forth. It also emphasises on learner's mastery over the traditional subject related to academic outcomes/content and some cross-discipline outcomes (such as problem-solving or working cooperatively). The *second* is less tangible and usually expressed in terms of what the learners know, are able to do or are like as a result of their education. It stresses long-term,

cross-curricular outcomes which relate to future life roles of the learner (such as being a productive worker, a responsible citizen or parent). These two approaches are what Spady (1994) calls traditional/transactional (content-based) learning system and transformational (outcome-based) learning system respectively.

(B) Aims of OBE

Spady (1994) emphasises that the decision of what and whether the learners learn is more important than when it happens and through what means (how) they learn it. He therefore identifies two key aims for OBE:

❖ Ensure all learners are successful in that they are equipped with the knowledge, skills and qualities (values and attitudes) required after they exit the educational system, and

❖ Achieve and maximise selected outcomes for all students by structuring and operating education facilities to be success-oriented.

Spady also holds that while all learners can learn and succeed; they cannot do so on the same day because learners have different learning rates as well as learning styles. Further, since successful learning breeds more successful learning, the importance of having a stronger cognitive and psychological foundation of prior learning cannot be underestimated. And since the conditions directly affecting learning are under the 'educational system's control', learning is dependent on the willingness of teachers and others to believe in the approach and support learners in their learning. OBE philosophy requires educators to focus more broadly on accomplishing results *versus* simply providing a service.

(C) OBE Principles

Four principles guide the transformational OBE approach. Taken together they strengthen the conditions for both learners' and teachers' success:

• Clarity of focus
• Design down
• High expectations
• Expanded opportunities

a. According to Spady (1994), the basic principle of transformational OBE is the **clarity of focus**. This principle infers that curriculum development, implementation and evaluation should be geared by the outcomes which are expected as the culminating demonstrations of the learners. The principle clearly delineates that the articulation of the desired end point is essential for successful outcomes (Willis and Kissane, 1997). Curriculum planners and educators have to identify a clear focus on what they want learners to be able to demonstrate at the end of significant learning time. Once these outcomes have

been identified, the curriculum is constructed by backward mapping of knowledge and skills.

b. The **design down** aspect infers that all curricular and educational activities should be designed back from the point where the 'exit outcomes' are expected to happen.

c. The principle of **high expectations** elicits higher level of standards than would normally be set, as only those can be labelled completed. Further, learners are supported to culminate higher level of performance (Spady, 1996).

d. **Expanded opportunities** provide for a flexible approach in time and teaching methodologies matched against the needs of the learner allowing more than one opportunity to succeed (Killen, 2000).

(D) Assessment Criteria

Killen (2000) says, to be useful in an OBE system, assessment criteria should conform to the following principles:

1. The assessment procedures should be valid — *(they should assess what they are intended to assess)*

2. The assessment procedures should be reliable — *(they should give consistent results)*

3. The assessment procedures should be fair — *(they should not be influenced by any irrelevant factors such as the learners' cultural background)*

4. Assessment should reflect the knowledge and skills that are most important for learners to learn.

5. Assessment should tell educators and individual learners something they do not already know, stretching learners to the limits of their understanding and ability to apply their knowledge.

6. Assessment should be comprehensive and explicit.

7. Assessment should support every learner's opportunity to learn things that are important.

8. Because learners are individuals, assessment should allow this individuality to be demonstrated.

In order to ensure fair, equitable and transparent judgement, the criteria used during the assessment process must be identified, formulated and made known to all candidates before assessment takes place.

According to Spady, in order to determine whether a candidate's demonstration/performance was sufficient, the assessment must be:

(a) Summative (continuous monitoring with feedback),

(b) Performance-based (authentic in the workplace/ real-life environment), and

(c) Criterion-referenced (assessment criteria).

The transition from traditional/ transactional learning to transformative outcome-based learning requires educators to facilitate the learning process by creating and expanding learning

opportunities. The learner's role is to actively participate in and contribute towards the learning process. To facilitate learning curriculum, (learning programme) development is essential.

There are many positive aspects to OBE, particularly from a transformational viewpoint.

(a) It supports a rational approach to education as a means rather than an end in itself.

(b) It supports cooperative learning.

(c) It demands that those who plan, manage and account for what happens to focus their efforts onto learning and attainment of desired outcomes.

(d) Learning is no longer time and teacher dependent.

(e) Learners, educators and others who support learning have to become more attune to creating the conditions that support learning and attainment of desired outcomes.

(E) Benefits of OBE

(a) **Clarity**: The focus on outcomes creates a clear expectation of what needs to be accomplished by the end of the course. Students will understand what is expected of them, and teachers will know what they need to do during the course.

(b) **Flexibility:** With a clear sense of what needs to be accomplished, instructors will be able to structure their lessons around the students' needs. OBE does not specify a specific method of instruction, leaving instructors free to teach their students using any method. Instructors will also be able to recognise diversity among students by using various teaching and assessment techniques during their class. OBE is meant to be a student-centred learning model. Teachers are meant to guide and help students understand the material in any way necessary, study guides and group work are some of the methods instructors can use to facilitate students' learning.

(c) **Involvement:** Student involvement in the classroom is a key part of OBE. Students are expected to do their own learning, so that they gain a full understanding of the material. Increased student involvement allows students to feel responsible for their own learning, and they should learn more through this individual learning. Another aspect of involvement is parental, and community involvement while developing curriculum, or making changes to it. OBE outcomes are meant to be decided upon within a school system, or at a local level. Parents and community members are asked to give inputs in order to uphold the standards of education within a community and to ensure that students will be prepared for life after school. Apart from the

just-mentioned benefits, the present author wishes to add one more benefit of OBE as follows.

(d) Equitable Opportunities: OBE is concerned about the learning by all learners. This is opposed to the traditional mass teaching strategy, where a teacher transmits textbook information to students at most with paraphrasing it, suiting the levels of average learners. Whereas, OBE provides opportunities as much as different learners require. It can respond to differing learning speed and learning styles of learners. It has scope for group work, individual projects, and it has no rigid methodologies. Thus, scaffolding can be provided by teachers as much as the learners require. Therefore, it can cater to the equitable requirements of all learners.

In sum, OBE has distinctly transformational qualities as visualised by its proponents. But, the challenge lies in understanding its philosophy, and in willing to own and work towards it by all stakeholders in order to achieve the end results it visualises.

CONSTRUCTIVISM

Since the National Curriculum Framework for School Education, (NCFSE) 2000, social constructivism got central stage in School Education in India. But, it was in NCF 2005, that Constructivism got the centre-stage in the country.

Constructivism is a philosophical position which holds a view that every learner constructs her/his knowledge. Knowledge is something which cannot be passed on from the teacher to his student, while what gets transferred from a teacher to a student is only the information. Information is not knowledge. Knowledge is defined by Plato as **justified true belief**. Mere information does not satisfy these conditions of knowledge and hence does not become knowledge. Therefore, teacher has the responsibility of providing suitable learning opportunities and experiences by design. Through these opportunities and experiences, she/he is expected to facilitate learners to construct knowledge.

Constructivism has been understood from cognitive perspective as well as from social perspective. The cognitive constructivist, Jean Piaget, articulated mechanisms by which knowledge is internalised by learners. He suggested that through processes of *accommodation* and *assimilation*, individuals construct new knowledge from their experiences. When individuals *assimilate*, they incorporate the new experience into an already existing framework without changing that framework. This may occur when individuals' experiences are aligned with their internal representations of the world, but may also occur as a failure to change a faulty understanding. *Accommodation* is the process of reframing one's mental representation of the external world to

fit new experiences. Accommodation can be understood as the mechanism by which failure leads to learning: when we act on the expectation that the world operates in one way and it violates our expectations, we often fail, but by accommodating this new experience and reframing our model of the way the world works, we learn from the experience of failure, or others' failure.

The influence of social constructivism in education is also quite prominent. The contribution of Vygotsky in articulating the concept of Zone of Proximal Development (ZPD) has indeed been an important contribution in understanding where does learning take place. This has enabled in understanding how each learner has to be understood as a learner with different ability. Social constructivism encourages the learner to arrive at her or his version of understanding the truth influenced by her or his background and culture. It stresses the importance of the nature of the learner's social interaction with knowledgeable members of the society. Without the social interaction with other more knowledgeable people, it is impossible to acquire social meaning of important symbol systems and learn how to utilise them. Young children develop their thinking abilities by interacting with other children, adults and the physical world. From the social constructivist viewpoint, it is thus important to take into account the background and culture of the learner throughout the learning process, as this background also helps to shape the knowledge and truth that the learner creates, discovers and attains in the learning process (Wertsch, 1997).

Glasersfeld (1989) emphasises that learners construct their own understanding and that they do not simply mirror and reflect what they read. Learners look for meaning and will try to find regularity and order in the events of the world even in the absence of full or complete information. According to the social constructivist approach, instructors have to adapt to the role of facilitators and not teachers (Bauersfeld, 1995).

Table 1

S. No.	Situations	Teacher	Facilitator
1	Teaching	Covers subject matter through didactic lecture	Helps learners to understand content
2	Learners' position	Passive	Active
3	Transaction	Lectures from the front	Supports from the back
4	Answering situation	Gives answers as per the curriculum	Facilitates learners to explore and arrive their own answers based on their understanding
5	Method of teaching	Direct method	Multiple methods
6	*Modus Operandi*	Tells	Asks and motivates to answer

7	Favourite approach	Monologue	Dialogue
8	Happy state	Happy if some children answer	Happy when all learners participate, understand and answer
9	Assessment	Of Learning	For learning
10	Encourages	Convergent thinking	Divergent thinking

(A) Constructivist Teaching and Learning Environment is characterised by the following:

1. Knowledge construction and not reproduction is emphasised.
2. Goals and objectives are derived by the student or in negotiation with the teacher or system.
3. Teachers serve in the role of guides, monitors, coaches, tutors and facilitators.
4. The student plays a central role in mediating and controlling learning.
5. Activities, opportunities, tools and environments are provided to encourage meta-cognition, self-analysis, self-regulation, self-reflection & self-awareness.
6. Multiple perspectives and representations of concepts and content are presented and encouraged.
7. Learning situations, environments, skills, content and tasks are relevant, realistic, authentic and represent the natural complexities of the 'real world'.
8. Primary sources of data are used in order to ensure authenticity and real-world complexity.
9. The learners' previous knowledge constructions, beliefs and attitudes are considered in the knowledge construction process.
10. Exploration is a favoured approach in order to encourage students to seek knowledge independently and to manage the pursuit of their goals.
11. Learners are provided with the opportunity for apprenticeship learning in which there is an increasing complexity of tasks, skills and knowledge acquisition.
12. Collaborative and cooperative learning are favoured in order to expose the learners to alternative viewpoints.
13. Knowledge construction takes place in individual contexts and through social negotiation, collaboration and experience.
14. Problem-solving, higher-order thinking skills and deep understanding are emphasised.
15. Errors provide the opportunity for insight into students' previous knowledge constructions.
16. Assessment is authentic and interwoven with teaching.
17. Scaffolding is facilitated to help students perform just beyond the limits of their ability.

(B) How does the OBE coupled with Constructivism look like?

Understanding the OBE and Constructivism, an amalgamated context could look like this. The attributes could include the following:

1. The exit outcomes are clearly articulated for every course.
2. Commensurate with exit outcomes the curriculum is planned, prepared, implemented, evaluated and renewed.
3. Teachers act as facilitators. They do not teach, they facilitate learning. They are co-constructors of knowledge.
4. Curriculum implementation is negotiated between the facilitators and learners.
5. There are no rigid teaching methodologies. Teachers enjoy complete autonomy of the choice of the methods and take full responsibility for the consequences of the autonomy to ensure achievement of exit outcomes.
6. Facilitating and motivating learners to learn is the common principle.
7. Making learners learn at their own pace is ensured by teachers.
8. Collaborative learning becomes the favoured approach.
9. Knowledge construction is the purpose but not the knowledge reproduction.
10. Peer learning is encouraged.
11. Exploration is used as an important methodology.
12. Meta learning and skills are encouraged.
13. Contingent scaffolding is provided by facilitators.
14. Authentic learning and authentic assessments become twin principles.
15. Preference for 'assessments for learning' than 'assessment of learning'.
16. Learners take more autonomy for their learning.
17. There is no scope for competition. No learner competes with the other.
18. Development of deep understanding, insights and functional skills are focused.
19. Emphasis on the development of self-analysis, self-regulation, self-reflection and self-awareness.
20. The learning culminates with the achievement of exit outcomes.

(C) Challenges and Possibilities to Focus on OBE Using the Lens of Constructivism

Some of the challenges and possibilities include the following:

(1) Teacher preparation programme:

It has the following implications:

(a) The pre-service teacher preparation programme has tremendous responsibility to identify potential student-teachers based on their aptitude for teaching apart from their interest. Both the aspirations of OBE and Constructivism will fail miserably if right kind of student-teachers are not selected.

With right student-teachers in place, it assures right kind of teacher preparation programme. The ultimate purpose of teacher preparation gets achieved.

(b) Having taken students, if the entire faculty involved in the teacher preparation programme does not share the same vision and mission, the impact on the student-teachers will be abysmally low. Therefore, an institution must equip itself to work towards the goals of OBE coupled with constructivist aspirations.

(2) In-service teacher education programme: Any school education system which is already functioning with a certain ideology and philosophy based on the training that the teachers have had, will find it difficult to move to a new philosophy and new ways and means of doing things. The rigidity of the system can be detrimental for any change. Taking all the in-service teachers towards a new philosophy should be done on massive level and convincing the intrinsic purpose of education among all teachers. The system must attempt to change itself. Massive lobbying in favour of the needed change can help in changing the scenario.

(3) Creation of professional development platforms: Any educational system must be able to create professional development platforms for teachers, which should be capable of supporting teachers contingent upon their need. Therefore, online and on-site support systems to handle a new system of education must be made available at the doorsteps of all teachers. It is easier said than done. Nonetheless, there should be enough opportunities for teachers for their development. For example, NCERT has created NROER (National Repository of Open Educational Resources), likewise Karnataka has created KOER (Karnataka Open Educational Resources). Karnataka also has Subject Teacher Forums. Apart from this, there should be scope for a number of small group and large group interactions among professional practitioners to share success stories.

(4) ICT mediation in teaching learning: It is needless to say that information and communication technology has a vast potential making learners autonomous as well as in making learning enjoyable and authentic. All teachers must be enabled to appreciate ICT mediation in teaching learning contexts. Until and unless teachers themselves are competent enough to understand the potential of ICT, they may not be able to provide any academic support to learners. Ensuring that all teachers understand and appreciate this, is a challenge. But the possibility is, the state will have to take initiatives in negotiating with the teachers to understand and appreciate the potential of ICT in teaching learning contexts.

(5) Addressing inclusive principles: It is a paradox that all teachers, who are in the teaching system

are not sensitive to the issues and concerns of inclusive education. It is also true that they are perhaps not trained in this. Therefore, organising massive training programmes for all teachers focusing on addressing inclusive concerns in any classroom covering the socially disadvantaged, disabled groups on the one hand, and understanding the talented, the gifted and the creative children on the other hand, apart from addressing the needs of the so-called average learners in any heterogeneous classrooms. This alone can enable teachers to be sensitive to inclusive principles of classrooms.

(6) Working towards equality pedagogy: Equality pedagogy, though emerged in the context of multicultural educational settings, its implications have the role to inform and influence every classroom in terms of providing learning opportunities and experiences as much as different children require. This indeed works towards inclusive requirements as well as quality requirements. Therefore, understanding the ZPD (Zone of Proximal Development) of learners becomes very important for all teachers. Therefore, there is a need for introducing the social constructivist perspectives for all teachers and enable them to understand the concept of ZPD. Providing suitable scaffolding for learners at different rates of learning also becomes an important challenge and a requirement.

(7) Total quality human resource development programme: The education programme planned and provided to children at different levels must be able to work towards total quality human resource development. There must be scope for understanding the potentialities of learners, commensurate with their potentialities children must be channelised with appropriate guidance and counselling in selection of suitable programmes and in enabling them to move towards reaching self-actualisation. Attempt must be made to develop human resources to its maximum in all individual learners.

(8) Accountability to system: The OBE aims at accountability to the system in an education programme. Therefore, no education programme can afford to have some goals and not achieve them. In most of the educational programmes, there are indeed goals and objectives articulated. But, there is a big gap between what is visualised and what is achieved. Therefore, there is a need for a change in the system, where the exit outcomes intended of any programme will have to be achieved by the system. This requires a very different perspective of looking at all educational programmes, their curriculum, and what gets achieved at the end. It should be construed as achievable and work backwards in order to make it work.

Summing Up: There is merit in working towards OBE. It is important that the Indian educational scene

benefits from OBE. It needs to be articulated in the Indian context by all stakeholders and see how it could be practically implemented.

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