Outcome-Based Education

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Part One: Curriculum appraisal

"…Human diversity and unity have their roots in many aspects of culture and society, not merely in the schools alone. In modern societies today, persons are bombarded with a multitude of perspectives of from many different sources."
[Schubert, 1986, p. 418]

Setting the stage

The notion of outcome-based education (OBE) has been widely illuminated in the field of educational reform since the last two decades. Despite the differences within the proponents and opponents, OBE can be defined as an educational model in which decisions about curriculum, instruction and assessment should be taken according to

the exit outcomes. Furthermore, the legitimate OBE model, according to its proponent, is the transformational OBE out of the prevailing OBE models – traditional, transitional and transformational OBE. Furthermore, according to Spady and Marshall (1991, 1994) the traditional OBE is guided by the curriculum-based objectives (cbo) whereas the transformational OBE focuses on the role performances, which are essential for the hi-tech and competitive future life of the learner (Spady & Marshall, 1991). The transitional OBE, a twilight zone between the both OBE, incorporates traditional OBE for planning the curriculum and transformational OBE for orienting the learner towards their future role (Spady & Marshall, 1991). Keeping the three types of OBE in mind, firstly, I seek to discuss the nature of the curriculum of Western Australia (henceforth Curriculum Framework) on the basis of the four main principles of success for all of the transformational OBE as explicated by Spady and Marshall (1991, 1994). Secondly, I enunciate the relation between exit outcomes and the subject structure of the long-standing curriculum.

OBE and the Curriculum Framework

According to Spady and Marshall (1991) and Spady (cited in Brandt, 1993), the basic principle of transformational OBE is the clarity of focus. The notion of clarity of focus infers that the curriculum development, implementation and assessment should be geared by the outcomes, which are expected as the culminating demonstrations of the learners. Furthermore, the principle clearly delineates that the clear articulation of the desired end points is very essential for a successful educational program (Willis &

Kissane, 1997). Given this principle of transformational OBE, the Curriculum Council (1998) has elucidated that the overarching learning outcomes are the basis for all educational activities of the schools of Western Australia. In the context of Spady's (cited in Brandt, 1993) focus on exit outcomes and perceived distinction between the exit and other outcomes the Curriculum Council has explicitly illuminated the importance of exit outcomes by saying:

> "...Overarching Statement describes the outcomes which all students need to attain in order to be lifelong learners, achieve their potential in their personal and working lives and play an active part in civic and economic life. These [Overarching Learning] outcomes apply across all learning area and are the responsibility of all teachers. (Curriculum Council, p. 20)

In order to delineate the notion of clarity of focus, it is essential to take into account the ideas of Willis and Kissane (1997). They emphasize that the notion of clarity of focus is essential to help develop the shared meaning of the focus embraced by the exit outcomes by which the teachers can assess their students and appraise their learning process very validly and reliably. The Curriculum Council (1998) has also shed light in this notion by elucidating the exit outcomes (Overarching Learning Outcomes) connecting with the different source of knowledge and skill and the need of the learners to cope with the changing world.

Contrary to the constrained in opportunity notion, the OBE focuses on expanded opportunity which means to provide with the schools and teachers to do everything to

culminate the outcomes. Spady and Marshall (1991) has urged that flexibility in time for attaining the role performances and delivery mode are the main characteristics of the OBE. This principle has been clearly incorporated in the Curriculum Framework by specifying that the learning process can be organised according to the need of the learner and the context of the schools (Curriculum Council, 1998). Furthermore, the Curriculum Framework has embraced through its underpinned principles that the Overarching Learning Outcomes are the basis for adopting various approaches to culminate them. Specifically Curriculum Framework emphasizes that the use of technology and all possible resources can help bring all learners within the circle of the success.

The high expectation principle of outcome-based education elicits three major notions: raising standard of performance so that only high quality of performance can be labelled as “completed”; using linear horizontal model that eliminates bell shaped-thinking of student performance; and supporting students continuously to culminate higher level of performance (Spady, 1996, n.d.; Spady & Marshall, 1991) . In the light of this principle, a question can be asked: How to authenticate the performance of the learners. Obviously, the principle cannot be addressed without OBE-compatible assessment procedure because it requires a substance-defined standard upon which the assessment is based (Spady, 1996). In this context, the Curriculum Council (1998) has hinted that school-based, authentic, valid, educative, explicit, fair and comprehensive assessments are recommended for probing higher level of performance (curriculum council, 1998). According to the Department of Education (2002) the purpose of the

assessment is to support and enhance the learning of students of different settings—the assessment should be embedded in learning process by replacing the notion of after-lesson, school and semester testing approach. Embracing this notion, varieties of assessment approach have been suggested through which teachers, students and parents can authenticate the learning process. In essence, the Curriculum Council (1998) has recommended the continuous, authentic and participatory assessment approach helps raise the standard of learning and hence the culminating demonstrations.

The design down notion infers that all curricular and educational activities should be designed back from the point where we expect the exit of the learning programme. This principle inextricably connected with the first principle of OBE that without the clear focus, it is not possible to develop the curriculum (cf. design down) (Killen, 2000). In relation to the Curriculum Framework, the exit outcomes (cf. Overarching Learning Outcomes) are supposed to be the basis for devising the Learning Area Outcomes. Admittedly, the design down notion follows in the sequence of Overarching Statement, Overarching Learning Outcomes, Learning Area Outcomes, Student Outcome Statements, lesson outcomes and learning activities (Willis & Kissane, 1997). Spady (1996) discusses two basic misconceptions in explaining the principle of design down such as to understand each and every curricular and instructional activities in the frame of design down and to interpret it as to develop the [exit] outcomes from the long-standing curriculum structure. In this context, the difficulties may lay on the implementation level in which the teachers may design

outcomes down form the prevailing curriculum structure. However, the curriculum Framework has portrayed such structural basis that schools and teachers are required to devise their programme according to their context aligning with the target set by the Curriculum Council (1998).

The appraisal of the Curriculum framework gives a glimpse that it has substantially been guided by the principle of success for all which is the main basis for assessing the direction of the curriculum process. Consequently, the Curriculum Framework has significantly embraced the notion of transformational OBE. On the one hand, the implementation of Curriculum Framework seems easy for the teachers because the Curriculum Framework has incorporated rich information of the scope and sequence of the curriculum. On the other hand there may be a danger of neglecting Overarching Learning Outcomes by focusing only the traditional subject areas (cf. Learning Areas). The literature shows that it is not easy to implement the transformational OBE in the first lot; instead it requires a planned and hierarchical process following three levels as mentioned by Spady (1995).

Long-established subjects and Exit Outcomes

The translation of the exit outcomes into the learning areas is a crucial process for a successful implementation of transformational OBE. In relation to the Curriculum Framework, it is imperative to discuss the relationship between the exit outcomes and long-standing [subject-bound] curriculum structure. In order to discuss this notion, I will take the example of the curriculum structure of Mathematics Learning Area and

sketch its relation with the traditional subject-bound mathematics curriculum.

According to the Curriculum Council (1998), the Overarching Learning Outcomes have been formulated to guide all the programme of the schools of Western Australia. Furthermore, such outcomes have been linked with the possible learning areas focusing the substance, which students should learn to attain the role performances (cf. Overarching Learning Outcomes). In the next step, the Learning Area Outcomes have been determined to help learners attain the Overarching Learning Outcomes. Specifically, taking the example of Mathematics Learning Area, it can help delineate how the Curriculum Framework has restructured the long-established content-based curriculum structure.

Mathematics, one of the eight learning areas, comprises of nineteen learning area outcomes distributing over seven clusters/strands such as appreciating mathematics, working mathematically, number, measurement, chance and data, space and algebra (Curriculum Council, 1998). Within each strand, the Curriculum Framework has incorporated sub-strands, Student Outcome Statement from foundation to level 8, and pointers. Specifically, the curriculum has aimed at enhancing mathematics learning providing students with supportive but challenging mathematical situations that contribute to the development of the learner. Furthermore, the Curriculum Framework envisages such mathematical learning opportunity that engage students in action and reflection, clarifies the purpose to motivate them, acknowledges differences between learners, espouses collaborative and supportive learning environment and helps

establishing connections of their learning process.

With such curriculum structure, I can compare my country's curriculum framework in which mathematical contents are the basis for teaching, learning and assessment. The subject-based curriculum hardly considers context, learning process and authenticity of assessment within the curriculum process. Willis and Kissane (1997) , have suggested that the traditional subjects (cf. learning areas) are restructured in the areas of knowledge contributing to the attainment of the Overarching Learning Outcomes. Seamlessly, the progressive outcomes, which help elaborate the explicit benchmark to map student progress, are the restructured form of the traditional content. In the context of outcome-based education the implementation starts from bottom to up completing three zone of attainment: traditional, transitional and transformational (Spady, 1994) . Spady (1994) further shades the light on his hierarchical notion by labelling the traditional zone as the alignment to the subject matter (cf. content discreet skills), the transitional zone as the development of complex unstructured task performance, and the transformational zone as the process of developing life-role performances. Needless to say, the subject-bound curriculum is fixed within the traditional zone imparting content concept and associated skills to the learners.

The Curriculum Framework's emphasis is on interdisciplinary, integrated and transdisciplinary learning areas focusing collaborative approach of learning. Some problems such as integration among the subject areas can be a difficult issue as many teachers have been developed for subject teaching (Venville, Wallace, Rennie, &

Malone, 2002) . The case studies carried out by Department of Education (Education Department of Western Australia) and Curtin University of Technology (see, Venville, Wallace, Rennie, & Malone, 1999) has revealed that only some areas could be integrated. The strong belief held by the parents, teacher and other stakeholders is that the integrated approach is a process of trivialising the academic standard.

Part two: Images within the Transformational OBE

Setting the Stage

The notion of transformational OBE has been depicted as a model for system- level change. Spady and Marshall (1991) infer that the transformational OBE is a model for restructuring the whole educational system. Looking at the basic preamble of the transformational OBE it seems a high-sounding reform-oriented label in which varying and often contradictory ideas have been enveloped. In this connection, it is essential to examine the transformational OBE according to its underpinning principle. Furthermore, it is imperative to discuss the nature of transformational OBE depicted by its proponents and opponents. In this connection, I seek to excavate the meaning of transformational OBE as a label and examine how the metonymical representation of the whole curriculum process can obstruct the process of learning by masquerading by a single curriculum trademark.

Transformational OBE as a Label

Spady and Marshall (1991) have proposed three basic premises such as all students

can learn and succeed; success breeds success; and school control the conditions of success (p 67). Such very common assertions seem to be incomplete to explain the complex, non-linear and unstable educational phenomena. However, it gives a glimpse that the concept of transformational OBE has been developed after the failure of mastery and subject-based learning programs in the name of OBE (Brandt, 1994) .

In order to appraise the transformational OBE, it is essential to discuss its four basic principles elucidated by Spady and Marshall (1991). Regarding the first principle, clarity of focus on outcome of significance, Spady (1994) and Spady and Marshall (1991) have suggested that it is essential to identify the significance of settings, substance (learning areas) and learner. On the contrary, Gandal (1995) opposes the idea of transformational OBE opining that the basis for the focus are academic standards which can only be guided according to the pre-existed sources of knowledge—the subject areas such as Mathematics, Science, Language Arts and so forth. In this context, I would like to raise some basic questions: What is the basis for selecting the outcomes? Are the proponents of transformational OBE using high-sounding words rather than making any difference within the system? Who does determine the outcome of significance? In searching answers for these questions, I have not seen much difference between the proponents of subject-bound curriculum and Spady (1995) as he tacitly assumes the supremacy of content by saying:

> "The approach I advocate is not anti-content, anti-clarity or anti-rigour as some allege. What it does do is dramatically expand the traditional paradigm of learning and performance by using rigorous content in a variety of interdisciplinary and even

transdisciplinary ways, … introducing the often-ignored challenges and circumstances of authentic contexts into the demonstration of performances". (p. 83)

The concept of design down from the ultimate outcomes has a very important role in shaping the framework of transformational OBE. This notion is not only useful in the context of transformational OBE but also in each and every classroom context in which we select a theme (cf. topic) and expand it in terms of objectives and activities. Spady (1994; n.d.) has unveiled the notion by saying that we need to design back from the culminating demonstrations so that the long-standing curriculum can be restructured according to the notion of transformational OBE. Despite its practicalities in curriculum process, the notion of design down advocates a controlled system, which neglects the ever-developing nature of the meaning of curriculum process.

Spady and Marshall's (1991) emphasis of high expectations for all to succeed is the third principle of transformational OBE, which embraces the notion of success of all learners with a high standard. This principle's focus is on devising such outcomes, that represent a high level of challenge for each student, and all students should accomplish them with a high standard. Undoubtedly, this notion is very important in any educational system. However, the organisational structure and input, which affect the learning process and attainment level of the learning outcomes, should also be taken into consideration while dealing with this principle. The proponents of transformational OBE have emphasised that this principle can help those students who were considered as the unsuccessful students in the past (Willis & Kissane, 1997).

The fourth main principle of the transformational OBE is to provide expanded opportunities for the success of learning. According to Spady (1994) the expanded opportunity principle requires a process of rethinking conventional assumptions about time, methods and standards. In order to justify this principle, the proponents of transformational OBE (e.g. Spady, 1994; Spady, 1996; Willis & Kissane, 1997) have proposed five realties of the learners:

- The learners' rate of learning is not the same as they may learn the different learning areas in different rate.
- The ways learners (people) learn vary extremely.
- Few learners learn perfectly at the first time.
- The comparative notion of standard infers to label only some learners are good at learning.
- Opportunities for learning success expand when learners are given a clear picture of the substance, ways and means to achieve the specified standards.

Spady (1996) further says that the depiction of heterogeneity among the learners and emphasis on success for all are the guiding philosophies that help schools formulate the programme according to the need of the learners. He further says that faster learners need not to sit with and wait for the others who are still repeating the same thing. I have not seen any point to refuse the notion of heterogeneity in learning

process. However, the opponents of transformational OBE say that it does not help foster the creativity of gifted learners. Instead, it helps turning three R's into the three D's: Deliberately Dumbed Down (Manno, 1995)

So far we discussed the basic principles used by the proponents of transformational OBE. I seek to excavate the philosophical meaning by which the transformational OBE has been underpinned. It reveals from the literature that the proponents of transformational OBE have specifically envisaged a product-oriented curriculum. Philosophically, any form of knowledge becomes worthwhile within the frame of process learning (Bruner, cited in McKernan, 1993). According to McKernan (1993), philosophy of outcome-based education has reduced the curriculum process by continuous destructing and constricting the meaning of curriculum. Viewing form the perspective of Schwarz (1994), the words used by the proponents of transformational OBE has revealed its limitation in addressing the educational phenomena. Furthermore, Hargreaves (cited in Schwarz, 1994) explicates that the term restructuring means to shape and mould learners rather than to expand their minds and capabilities.

William Spady has frequently used such metaphors—exit outcomes, generalizable, discrete content skills, competence, execution and so forth—that reduce the educational practice and delimits the construction of curriculum process. To some extent, I agree with Schwarz (1994) that the curriculum model followed by the OBE has not elicited different paradigmatic image from that of the CBO. Substantially, both follow the

management-oriented positivist-behaviourist paradigm.

The proponents of transformational OBE focuses that the time is variable and the outcome is constant (Brandt, 1993). In my perspective, it is a sheer abuse of the definitions of the terms variable and constant. On the one hand, if we accept the time is variable, how many maximum years can be allowed to a learner to complete the schooling of K-12? If a learner requires more years to culminate the exit outcomes, how can we say the pre-determined outcomes are still the outcomes of significance as the situation for which the outcome was envisaged would have already been changed? On the other hand, Spady and Marshal's (1991) depiction of schools as unstable ever-changing entities probes a mismatch between the notion of unstable schools and the constant exit outcomes. It seems a Utopia that school is always moving but its door is always fixed.

In the conclusion, I seek to ask some questions, which can portray my appraisal of this label: What content should we teach differently in the context of transformational OBE? Can they be labelled as OBE-proponent for those who have been advocating integration in various ways—content connection, process integration (National Council of Teachers of Mathematics, 2000), interdisciplinary and transdisciplinary approach, (Lake, 1994; Merrill, 2002)? What is the basis of restructuring the subject areas? Does it mean to eliminate the universal nature of education and to promote contextualisation?

Metonymy, transformational OBE and teachers

According to Lakoff and Johnson (1980) metonymical representation is simply a trope that is used to depict a signified concept, object and so forth by its signifier. Metonymical representation is very useful in conveying the meaning of signified by a part of it. Its role is pervasive in our day-to-day communication and professional discourse. However, while representing the whole concept by a part of it, there is always a danger of being conveyed misleading concepts and communication. Seamlessly, in the context of representing a whole curriculum process by a single curriculum image, there is always a danger of being closed and less effective curriculum metaphor in order to address the need of the learners for their all-round development. Specifically, the part-whole metonymical representation of curriculum process can lead to a closed image of curriculum.

In my perspective, not only curriculum image is represented by the metonymical representation but also the image of transformational OBE is also portrayed by the part-whole metonymy. According to Spady (1995), the proponents and opponents of transformational OBE have often represented [knowingly or unknowingly] the notion of transformational OBE by a part of it. A question can be raised here: What happens if a curriculum is represented only by transformational OBE-generated curriculum image while the transformational OBE is depicted by a part-whole metonymy?

The curriculum, which is developed within the frame of transformational OBE, embraces the metaphor of teaching as mechanizing the learner and learning as culminating. Regarding the notion of its curriculum image, a number of questions can

be asked: What curriculum image does this notion embrace? Is it rationalist? Behaviorist? Constructivist? Postmodernist? Can it include as many as possible curriculum image? What may be the effect on the teachers who have been subscribing a single curriculum image? I would like to discuss these issues in the following paragraphs.

Despite the claim of various proponents of transformational OBE depicting it as a liberating model of educational reform, the curriculum process depicted by it falls within the modernist paradigm. However, there are some possibilities of including multiple perspectives in interpreting and utilizing the learning process (Schwarz, 1994) . Virtually, while the curriculum process is directed by a set of outcomes, the notion of curriculum construction turns into an irony in the context of transformational OBE. Furthermore, Brandt's (1994) notion of transformational OBE as a product-oriented thinking creates a danger of depicting curriculum within the limited periphery of pre-determined exit outcomes. This opinion discards the notion of Schubert (1986) that the effectiveness of any curriculum lies in subsuming all possible curriculum images. Furthermore, there should also be a place for such curriculum that is being developed and constructed. The proponents of transformational OBE pretend that the curriculum image embraced by the transformational OBE as a complete one, which does not require the other prevailing images of curriculum.

Despite the recommendation of student-centred approach for teaching-learning process, the proponents of transformational OBE have not considered the

disadvantages of product-oriented approach in teaching and learning programme. Furthermore, the transformational OBE persuades teachers to subscribe the outcome-oriented teaching which simply a way of engineering learners to a particular direction. In my perspective, this notion develops a tendency of teaching as more structured, less creative and robotic activities. The aesthetic, and artistic aspect of learning is less emphasised within the product-oriented paradigm (McKernan, 1993) . Consequently, the teachers may be less concerned about the quality of learning rather than persuading the learners to culminate the outcomes. In my perspective, teacher can develop a rich pedagogical understanding by subscribing multiple and open-ended curriculum images rather than subscribing the single and closed curriculum image.

In conclusion, the proponents of transformational OBE regard it as a reform-oriented approach, which takes into account the basic principle of success for all. The opponents of transformational OBE have criticized it for being closed and product-oriented and paying less attention to the academic standard. Such critics have appeared in the both paradigms: extremely modernist and postmodernist. One of the important aspects of transformational OBE is to propose to bring all students within the circle of success. On the contrary, it has put much effort on the product-oriented system and depicted the exit outcomes as fixed and rigid exit without espousing the integral perspective of knowing as process and knowledge as product.

Part three: Curriculum as Intended Learning outcomes

Setting the stage

The outcome metaphor portrays a very important image of curriculum. The common notion of outcome is to represent the curriculum process in terms of pre-determined exit points, which becomes a basis for assessing learners and the learning process. This metaphor has become pervasive after the emergence of outcome-based education as a label of educational reform. Notwithstanding its significant role in teaching and learning context, it has been questioned from various angles. Keeping its importance in mind, firstly, I seek to present the means-end dilemma of outcome metaphor; secondly, I deal with the effectiveness of outcome metaphor; and thirdly, I excavate the meaning of curricular ecology elucidate the inclusiveness of other curriculum image within the outcome metaphor.

The means-end notion

Historically, the outcome metaphor has been constructed on the background of the activity metaphor (Schubert, 1986) in which the latter has been considered as an incomplete portrayal of the educational phenomena. Put simply, the weakness of activity metaphor—to regard the day-to-day learning activities as the end of educational process—has helped coin the new metaphorical image of curriculum as intended learning outcomes. According to Andrich (2002), the educational outcomes are the manifestation of human construct which he terms as the hierarchical structure of the latent to overt construct. Specifically, this elucidation hints that the outcome

metaphor plays an important role in day-to-day learning activities and the entire curriculum process. Schubert's (1986) emphasis on the specific learning outcomes has also been accepted by the Board of Studies of New South Wales (cited in Brady & Kennedy, 1999) by defining outcomes as comprehensive, assessable and observable benchmarks which help guide the educational programme.

When we consider the outcome metaphor as a key curriculum image, we need to explain the curriculum process through the hierarchy of outcomes. Such hierarchy has been formed from the top to down sequence of exit, learning area, enabling, progressive outcomes and daily lesson objectives. The day-to-day lesson objectives facilitate to culminate the unit and/or topic outcomes and such outcomes help achieve the learning area outcomes and so forth (Andrich, 2002). Schubert (1987) delineates the need of the behavioural objective as day-to-day lesson outcomes by saying that they overcome the vagueness of the general outcomes. Specifically, the behavioural objectives are regarded as the means of monitoring the day-to-day learning process. However, the scope of the behavioural objectives is limited because all human constructs cannot be explained in terms of behavioural objectives (Andrich, 2002).

Regarding the means-end notion of the curriculum process, I have observed the same dilemma in distinguishing the objectives and outcomes as did by Eastwell (1999). Theoretically, the ends of the curriculum are the exit outcomes, which guide the whole educational process (cf. teaching, learning, credentialing, accreditation). Furthermore, the enabling, progressive, lesson outcomes are the means for achieving the end of the

curriculum.

In my perspective, each curriculum has inherited some expected outcomes, which may not be elucidated clearly. Many such outcomes (end) are constructed through a series of classroom practice (means) and established them inherently as the end. My portrayal of the reverse order of end-means notion may be more natural because my process of construction of outcomes appears elsewhere except in the frame of transformational OBE!

Effectiveness of the outcome metaphor

In the quest for searching of alternative practices in learning and teaching, many educational reform initiatives have put emphasis on the improvement of learning situation. The effectiveness of such reform programs relies on their portrayal capacity of the day-to-day educational phenomena. With such notion, I seek to discuss the conditions that make OBE-oriented outcome metaphor as a successful and effective reform initiative.

Generally, outcome metaphor deals with the intentionality of the curriculum; it is not curriculum itself (Schubert, 1986). Furthermore, this does not specify the hierarchical structure of the outcomes as incorporated by the proponents of the transformational OBE. However, it is regarded that the legitimate image of outcome metaphor can be found in the frame of transformational OBE. The effectiveness of the outcome metaphor depend upon the efficiency of the schools in the sense that whether the

schools are able to provide all possible support to the learners in order to culminate the exit outcomes with the high standard. Comparing this notion with my context, I have envisaged that the OBE can only be successful if the schools become self-sufficient to decide about their educational programme.

Needless to say, the support of community is very essential in implementing the OBE. The political commitment is essentially important, as it requires more money than does the traditional system (Manno, 1995). Not only does OBE require many well-trained and experienced teachers but also manageable student-teacher ratios. Furthermore, the teacher education programme should also be restructured to produce the teachers who can teach according to the notion of the OBE.

Spady and William (1994; 1991) admit that the guiding principle of the OBE is to make the learner as a competent future citizen. For this, they envisage that there should not be failure in any part of the students; instead all students should be successful with a high standard of culminations. For me, this is very impractical in real world that all people cannot be successful with the same [high] standard. There are strongly held belief that the OBE is effective in the field of technical training rather than in academic education (Eastwell, 1999).

The issue of the ownership of classroom in the frame of OBE is essential to discuss. Specifically, the proponents of OBE propose the cooperative learning as an OBE-compatible approach of learning. Generally, this approach depicts the student-owned classroom. However, the ultimate ownership of the classroom lies on the

teacher, as he/she has to assess the learner on the basis of the exit outcomes. From my experience, this (OBE and cooperating learning) is again a mapping between different surfaces that may result a meaningless notion!

In the context of Eastwell's (1999) concern of OBE, some of his fact-based opinions such as increasing teacher load and teacher perception of the notion of outcomes cannot be ignored. His dissatisfaction over OBE indicates that it is essential to take into account the effects of its practice. For me, any single perspective cannot represent the whole educational phenomena. Instead, it is essential to espouse an integral perspective by which we can address the multifaceted notion of educational phenomena.

In conclusion, I would like to put the idea of Goff (1998) who urges that the complex and chaotic systems are unpredictable but can be determined within a set of broad limitations. Comparing with the notion of fractals, educational settings can be explained as ever changing, unstable and incomplete. However, they can be guided by some common elements. If we regard the outcome metaphor, as a loose predictor of teaching/learning activities, there can be a place for Doll's (1993) notion of four R's of richness, recursion, relations and rigor (p. 161) which can help the learner develop multiple and integral perspective to view their future world.

Curricular ecology

The notion of ecological balance in curriculum process is a crucial issue as in the

biology in which the absence or presence of a type of organism or any physical environment may disturb the balance (Schubert, 1986). In the context of curriculum process the ecological balance infers that there exists an interconnected relationship between multiple aspects of educational process, which insist on espousing interconnected relationship among the diverse factors of schooling. According to Eisner (1992), the attention should be given to the five ecological dimensions of schooling: the intentional, structural, curricular, pedagogical, and evaluative. He further envisaged that eight factors make change in schools difficult, including teacher isolation, persistence of school norms, inadequate in-service education, and internalized teacher roles. The implication of Eisner's (1992) notion is to consider the aspects of unintentionality (cf. intentionality) while planning for educational reform.

The implementation of OBE in educational setting requires a sound understanding of curricular ecology. The cultural frame of the schooling (Smolka, 2001), cultural capital (Wood, 1988), the socialization modes of the students and other many overt and covert factors influence the process of curriculum. The notion of change within the existing curriculum process is not to engineer learners towards something that is implanted from the outside without considering interconnected aspects of curriculum process; it is rather to reconceptualise (or to construct) within the curricular ecology of the school. However, the notion of OBE as explained by its proponents does not take account of the culture of schooling. I agree with the notion of the proponents of transformational OBE of renovating the traditional calendar-based schooling. however, my perspective is not to view the reform process superficially without minutely analyzing the context

and the need of schools.

Philosophically, the outcome metaphor does not prevent subscribing the other curriculum image. In my experience, one cannot imagine the teaching lesson without outcome(s). However, my perspective of outcome metaphor is to derive it through the curriculum process making rich and comprehensive to liberate the students from the traditional thinking. This comes from teachers' personal practical knowledge (Connelly & Clandinin, 1988) and Palmer's (1998) notion of understanding of the inner landscape of teaching . In William Spady's outcome metaphor, there is a little role of experience metaphor, which the curriculum theorists regard it as a useful metaphor for developing a balanced curriculum process.

In Schubert's (1987) perspective, the goal of schooling is to put the learner within the interconnected network of the culture, society and other overt and covert factors. Similarly, the role of educators is to deal with the notion of schooling as a balanced and interconnected phenomenon. Looking from the historical perspective, the curriculum is a treasure of various ideas, knowledge and experiences of human endeavors and it has been continuously constructing (Schubert, 1986) .This perspective infers that outcome metaphor needs to subscribe multiple curriculum image in order to be successful curriculum metaphor.

The proponents of OBE have not discussed the issues of nonschool curricula, which play a crucial role for attaining the curricular aims of the schools. According to Schubert (1986) the areas of nonschool curricula such as home and families, peer

relationships, mass media, formal organizations, vocations, and avocations affect [positively and negatively] to the process of learning. Taking this notion, Swab (cited in Schubert, 1986) points out that the curriculum process is depicted as a continuous interaction between teacher, learner, subject matter and milieu. Specifically, this helps to derive the notion of who do teach, who are taught, which is taught, where is taught (Schubert, 1986). These perspectives help delineate the notion of schooling and the curriculum, which clearly indicates that it is rich in continuous construction, multiple and integral perspectives and process-oriented model.

Guided by the outcome metaphor, I still suspect whether the product-oriented OBE helps develop an interactive [educative] relationship between my students, the curricular ecology and me. The product-oriented OBE (the ham sandwich) rather encourages me to conduct teaching-learning programme on the basis of a structured process by following a strict scientific paradigm, which does not help liberate the students to be passionate for in-depth learning, inquisitive for knowing, enthusiastic towards the knowledge.

In conclusion, I prefer the process-oriented outcome-based education rather than the product-oriented one. In my model, the exit outcomes are developed during the process of schooling by espousing the culture of schooling and the social reality. Put simply, in my perspective, the notion of process-oriented model holds the practical belief that the future curriculum is constructed on the background of the present curriculum process. One question may be asked: What is the role of outcome metaphor?

The answer is not so complex as in the product-oriented model: Rather it is simple, as the outcome are embedded in each and every part of the curriculum process embracing the notion of knowing is a process and knowledge is a product.

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