

QUALITATIVE SYSTEMATIC REVIEW OF LITERATURES ON OUTCOME-BASED EDUCATION FOR NURSING STUDENTS

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ABSTRACT

This review of related literature explores philosophical elements and essentials of Outcome-based education (OBE) to nursing students. OBE observed three different ways: as a theory of education; as a systematic structure for education; and as a classroom practice (*Spady, 1988*). This article reviews literature citations and analyzes strengths of OBE.

OBE can further be divided into a basic structures with emphasis on learning outcomes per module or subject. Each set of learning outcomes is mapped against the course programme.

According to Spady (*1998*), OBE shall reflect a rationale to explain-why any programme exists, aim to explain what the programme may achieve, a learning outcome statement to indicate what areas of content will be used as vehicles for student learning, a teaching strategy statement to indicate how learning activities may be organized and an assessment guidelines to indicate how student learning will be assessed and reported. Programme outcomes will be observed at the end of the course.

In Malaysia, it is a "Code of Practice" to tabulate and / or to reflect the system completely inside a curriculum.

"In outcomes-based education..., you develop the curriculum from the outcomes you want students to demonstrate, rather than writing objectives from the curriculum you already have" (*Spady, 1998*). Students begin with multiple opportunities to learn and teachers use multiple ways of providing learning opportunities (*Killen, 1998*) especially for nursing schools. The most important feature of OBE is that all students succeed in mastering their specified learning outcome in all their subjects or modules in a given time (*Faouzi et. al, 2003*).

INTRODUCTION

OBE enhanced the nursing students' clinical competency (*Valizadeh et. al., 2009*) and recommended in employing this method more because of clinical exposure. Valizadeh's *et. al. (2009)* has validated from his experiments that the cognitive, psychomotor and behavioral skills of the respective groups to be parallel. OBE has led to develop 'Nursing students' competency above the traditional method without programme outcomes.

Dr. Bill Spady, Sociologist and Director of the International Center on Outcome-Based Restructuring, defined the connection between outcome-based education and mastery learning (OBE/ML) in an article entitled "On Outcome-Based Education: A Conversation with Bill Spady". In January, 1980 they

convened a meeting of 42 people to form the network for outcome based schools. Most of the people who were involved had a strong background in mastery of learning. The major OBE/ML experiment took place in Utah between 1984 – 1986.

A letter applied for federal grant written by Utah State Superintendent of Public Instruction, G. Leland Burningham to the United States Secretary of Education Terrel Howard Bell on July 27, 1984 stated that OBE/ML must spread nationwide (*Schlaflly, 1993*).

Jonathan Jansen, internationally prominent rector of the University of the Free State in South Africa, together with observers from Scotland and Australia attempted to translate OBE into workable units of information, and implemented it by 1998 (*Spector, 2010*). But then a professor of education at

the University of Western Cape opposed the OBE/ML's coming into service. South Africans were not in favor of OBE. This in particular was due to the approach of elimination of standardized tests, the Carnegie units, traditional subject matters and report cards (Schlafly, 1993). According to this report by Schlafly (1993), new OBE substituted grading system into programme outcomes from traditional report cards.

LITERATURE CITATIONS

Traditionally, report cards do not indicate assessment of general skills, behaviors and knowledge, and they run without learning outcomes of the course programme (Schlafly, 1993).

According to Killen, (2000), OBE/ML uses a "stimulus – response – stimulus" pattern of rewards-and-punishments process based on Pavlov's and Skinner's programmed learning behavior modification techniques.

The main idea behind Spady's (1998) definition is that an OBE is an approach to learning, delivering and evaluating instruction that requires administrators, teachers and students to focus their attention and efforts on the desired results of education (Killen, 2000).

The increasing cause for accountability was one of the reason for the rapid spread of various outcome-based education in countries such as United States and United Kingdom during the 1980s, and 1990s (Killen 2000).

Spady & Killen (1999) developed four essential principles of OBE/ML. These principles, enumerates clarity of focus, designing back, high expectations and expanded opportunities. According to Spady (1998), these principles exhibit that learning is not significant unless the outcomes reflect the complexity of real life and give prominence to the roles that learning will play after they finish their course programme. This underlying principle was also a usable element in Northern Territory Board of Studies during 1998 in Australia (Killen, 2000). On the other hand during 1999 Queensland's schools, reforming longitudinal study, opposes the above principles of the learning outcome essentials of OBE/ML.

OBE is a performance-based approach at the cutting edge of curriculum development (Harden, 1999). Harden's (1999) research on reforms and management of medical education, put emphasis on the product

rather than on educational process. It emphasizes on the relevance of curriculum and accountability, and gives provision for a clear framework of curriculum planning which has an intuitive appeal. It also compares different training programmes in medical field and between different professions regarding healthcare delivery (Crosby et. al., 1999).

Assessment of student learning should focus on how well students understand rather than how much they understand (Biggs & Collis, 1982). A classroom that emphasizes mastery should be more likely to use effective learning strategies and should attribute their success to effort (Ames and Archer, 1988). OBEs/MLs would be able to suggest communicating performance, emphasizing on students' progress, reinforcing learning and effort, making grades contingent upon reaching goals (Ames & Ames, 1991).

In Malaysia, reflective journals for nursing students, during clinical practice investigate this learning tool via learning outcome system (Faizah, 2008). Reflective journals explain, compare and discuss anecdotal chronological record of experiences and events (Remington, 2000). Three major categories which represent the concepts of outcome enclosed in the reflective journal are: 1.) Knowledge 2.) Skills and 3.) Confidence and motivation to demonstrate what they know (Guskey, 1994; Kirk & Wellborn, 1992; Mc Neir, 1993).

The move towards applying OBE in learning and teaching at tertiary education level has become an important topic in Malaysia (Mohd Ghazali, Suandi & Norfaryanti, 2008). OBE was developed and has been practiced since 1950s in University Putra Malaysia (UPM, 2004). Two major domains were focused from the Ministry of Higher Education (MoHE) which were teaching and learning taxonomy (Bloom, 1977) and the usage of learning outcomes Bloom's (1977) verbs were used according to level of learning to describe actions and capabilities. UPMs utilization of all levels of domains was prevalent.

Infusing levels of cognitive, affective and psychomotor learning in their instructions in line with the effort of producing students with wholesome and global qualities were evenly utilized (UPM, 2004). The assessment procedures to measure learning outcomes of the students were clustered in a programme outcome formulated by MoHE is as follows: lifelong learning and information management; communication skills;

critical thinking and scientific approach; managerial and entrepreneurship; psychomotor, practical and technical skills; knowledge; social skills, teamwork and responsibility; and professionalism; values, attitude and ethics. MoHEs programme outcomes were mapped against learning outcomes by UPM.

There is no one single model to describe learning outcome of OBE. The frameworks learning outcome

of OBE “share an emphasis on systems-level change, observable, measurable outcomes and the belief that in a given time all students learn” (Faouzi *et. al.*). The learning outcome reflects and supports each subject or module and its rationale. It needs to be clear and observable. The observations are the “demonstration of students learning that occur after a significant set of experiences” (Faouzi, *et. al.*). Learning outcomes in

Anonymous University in Malaysia – Model of Learning Outcomes	Standard MoHE Program Outcomes								
	Knowledge in Specific Area – Content	Practical, Psychomotor and technical Skills	Thinking and Scientific Research Approach	Communication Skills	Social skills, teamwork and responsibilities	Values, Ethics, Moral and attitude	Information Management and Life Long Learning	Management and Entrepreneurship	
Develop knowledge in scientific fields of Chemistry	•								
Apply their religious knowledge on their professional and personal life							•		
Apply the principles of communication to various aspects of practice				•					
Understand the basic concept of algebra and physics	•								
Compare and contrast ethical principles to the selection, conduct and outcomes of personality and human behavior						•			
Know and understand the foundation skills, ethics and principles with the ability to comprehend concepts of the fundamentals of Nursing	•								
Identify evidence of learning in line with Human Biology and the benefits of adaptation							•		
Develop their English grammar for formal communication				•					
Discuss knowledge on history of Malaysia and define its culture and heritage	•								
Discuss the importance of fluids and electrolytes in all areas of the nursing domains	•								
Demonstrate systematic understanding of drugs and its Clinical Nursing Implications		•							
Know and understand the concepts of microbiology, parasitology and epidemiology	•								
Critically analyse practice and explicitly define issues which require investigation in order to enhance clinical effectiveness for the child and the child bearing			•						
Perform principles of Nursing skills in the context of respiratory and cardiovascular diseases		•							
Plan an investigative approach on the concepts and strategies on adult healthcare and its clinical practice in all areas of the nursing domain		•							
Apply principles of change theory in the Philosophy of man and the ability of humans to socialize in groups and as an individual						•			
Develop teaching strategies and philosophical methodologies appropriate to students' management of self learning toward curriculum development								•	
Devise, negotiate and proceed with a focused and balanced plan of learning articulated by a learning contract and production of a Portfolio which would evidence appreciation, understanding and ability to critically analyse aspects of current practice in the community.		•							
Synthesize the effectiveness of responsibility in the Psychiatry set ups for the society					•				
Apply the scientific concepts of computers and information technology to Nursing practice				•					
Analyse the scope of the developing nursing role for musculo-skeletal disabilities			•						
Know and understand the principles of renal care and its nursing responsibilities for dialysis	•								
Perform skills attributed to the concept of otto-rhino-laryngology and ophthalmology nursing		•							
Critically understand the context of Oncology and its Nursing practice in the clinical set ups	•	•							
Develop sympathy that enhances the need for caring for the geriatrics and complex degeneration of systems involved in ageing for promotion of hospice care						•	•		
Reflect on specialized practice and articulate an action plan to progress personal and professional development and evidence ability in intensive and emergency care set ups		•					•		
Analyze statistics and statistical approaches for professional practice	•		•						
Show critical awareness of the relationship between leadership and management					•			•	
Manage independent learning, engage in individual academic supervision and apply the formative processes to the development of Nursing Studies					•			•	
Develop the complexity of teaching methodology through formalized communication skills				•				•	
Evaluate how evidence may contribute to the development of Research	•		•						

the context of OBE are not values, attitudes, feelings, beliefs, activities, assignments, or grades (Faouzi, 2003). Blooms taxonomy (1977), supports the action and clarity of a learning outcome by describing it.

One of the many examples of mapping the MoHE's formulated programme outcome to the three domains of learning outcome is shown in the table below from one of the university colleges in Malaysia. The shaded part is where the paradigm for variables of learning was derived.

The 31 subjects above are mapped against MoHE's formulated programme outcomes. The selected 10 subjects concentrated on knowledge, 7 subjects on practical usage and 7 subjects are related to management. The rest of the subjects are considered significant but have minimal concentration on the programme outcomes formulated by MoHE, as found on the sample map above, to substantiate the paradigm for the course programme.

The lower the level of learning, focus of mastery is lower. One outcome concentration is enough. This reflects the paradigm.

On the other hand, the higher the level of the module or subject, the greater the number of mapping is done on the outcomes for parallelism. This complexity is not usually recommended.

It is effective to concentrate on a single outcome to map the comparison. Learners become focused. The idea is mastery per subject or module in line with the MoHE's formulated programme outcomes for a more comprehensive and analytical domain of learning. This 2-point mapping system uses higher level of concentration from the programme outcome standardized by MoHE, like bachelor's degree for graduating students and post graduate studies.

The last step is mapping the subject's or module's learning outcomes against Higher Education Provider's (HEPs) formulated by programme outcomes. The transcript of record is focused on programme outcomes.

If the learning outcome reflects two programme outcomes, then the mastery of learning will be more complex. At the end of the curriculum, their marks will be interpreted from the programme outcomes as grade

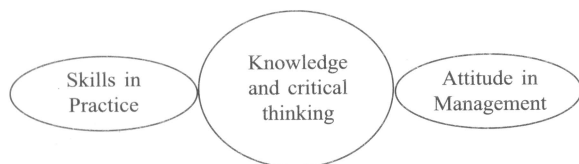
Anonymous University in Malaysia – Model of Programme Outcomes		Standard MoHE Program Outcomes							
		Knowledge in Specific Area – Content	Practical Skills	Thinking and Scientific Skills	Communication Skills	Social skills, teamwork and responsibilities	Values, Ethics, Moral and professionalism	Information Management and Life Long Learning	Management and Entrepreneurship
Sample map of Programme Outcomes formulated by the HEP for the 4 years Bachelor of Science in Nursing. This is reflected in the transcript of records at the end of the course programme.									
PO1.	Ability to acquire and apply knowledge and understanding to deliver Nursing Care effectively	✓							
PO2.	Ability to design and conduct experiments, in Nursing skills efficiently			✓					
PO3.	Ability to use the techniques, in promoting health, preventing illness or disease and injury		✓						
PO4.	Ability to provide effective nursing sciences in a holistic and thoughtful manner through the Nursing Process		✓						
PO5.	Ability to apply ethical standards and professional guidance in self care to individuals						✓		
PO6.	Ability to demonstrate quality care as an efficient and effective members of the health care team					✓			
PO7.	Ability to establish interpersonal relationships among clients and public				✓				
PO8.	Ability to identify problems in research in clinical practice and be involved in formulating solutions whenever necessary			✓					
PO9.	Ability to self awareness and develop a value system of lifelong learning						✓		
PO10.	Ability to engage in continuing professional development in the Nursing system								✓
PO11.	Ability to acquire and apply managerial and entrepreneurial skills.								✓

point. The number of grade point will be parallel to the number of programme outcomes. HEPs programme outcomes will be revealed to the students at the end of the course programme to describe what they have learned.

Abilities are observed and quantified during formulating a programme outcome by the HEP.

From this map, Harden (1999) searched the impact of employability of graduates that ascertained knowledge, skills and attitude. Harden (1999) provided a framework using three-circle model as a paradigm, shown by the shaded part where the MoHE's programme outcomes was displayed. Paradigms are used to represent the programme outcomes. Harden's (1999) models represented the top three among the programmes where a learner excelled as shown below.

The three-circle model is provided as a paradigm and is a must-know for the learners. The three-circle model that the learners have excelled upon, may also be used as reference by the potential employer. Various domains are provided to consider the holistic wellbeing of a learner. All subjects or modules are reflected on their transcript of records and their verification of training with programme outcomes is done by point system or by interpretation of marks.



ANALYSIS

Employers will then refer to that model for evaluation of a graduate's capability. Transcript of records as employers' reference will cover not only grades from a module or subject, but will also describe a unique combination of different kinds of abilities. Programme outcome of the course programme will be enumerated. The marks tabulated during training will be evident and will guide in assessment. Marks will be evident; hence tabulated in the verification of training record to serve as a guide for assessment of strengths and weaknesses of a graduate. It shall be transcribed per module's or subject's learning outcome in a numerical standard parallel to a percentile approach of interpretation of grades. Therefore, graduates may choose varieties of career as an opportunity related to their learning outcomes in accordance to these three types of abilities.

Action verbs in Bloom's taxonomy (1977) make OBE observable and descriptive per subject or module. Learners understand well rather than understand a lot. Learners masters a subject rather than passing a subject.

An OBE graduate can be dynamic. They will analyze situations rather than memorize it with ease. An OBE graduate can contribute varieties of learned skills to society. They can be effective managers, statisticians, scientists, marketers and handy man in the household or in the community. Their education will not just focus on the title of the certificate that they may acquire. Employers may maximize their learning outcomes.

References

- Ames, C. & Archer, J. (1998). Achievement goals in the classroom: Student learning strategies and achievement motivation. *Journal of Educational Psychology*. 76: 535 – 556.
- Ames, R. & Ames, C. (1991). Educational Values and Cognitive Instruction: Implications for Reform. *Motivation and Effective Teaching*. In L. Idol and B.F. Jones (Eds.). (pp.247 – 271)
- Biggs, J.B. & Collis, K.F. (1982). *Evaluating the Quality of Learning: The Solo taxonomy (Structure of the Observed Learning Outcome)*. New York: Academic Press.
- Blooms, B.S. (1977). *Taxonomy of Educational Objectives: The Classification of Educational Goals. Handbook 1: Cognitive Domain*. New York: Longman. 1: 4 – 16
- Collier, D. (2000). *Assessment Based on Outcomes of Significance*. A paper to be presented at the Annual Conference of the Association for the Study of Evaluation in Education in Southern Africa, Port Elizabeth, South Africa, 26 – 29 September.
- Crosby, J.R., Harden, R.M., Davis, M.H., Friedman, M., (1999). *Outcome-Based Education: Part 5 – From Competency to Meta-Competency: A Model for the Specification of Learning Outcome*. *Informa Healthcare*. 21 (6): 546 – 552.

- Faizah Abd Majid, (2008). The Use of Reflective Journal in Outcome Based Education During the Teaching Practicum. *Malaysia Journal of ELT Research*; 4: 32 – 42.
- Fauzi, B., Lansari, A., Al-Rawi, A., & Abonamah, A. (2003). A Novel Outcome-Based Education Model and Its Effect on Student Learning, Curriculum Development, and Assessment. *Journal of Information Technology Education*. 2: 203 – 214.
- Gurskey, T. (1994). Defining the Differences Between the Outcome-Based Education and Mastery Learning. *The School Administrator*. 52: 34 – 37
- Harden, R.M. (1999). Outcome-Based Education: Part 1 – An introduction to Outcome-Based Educatio. *Informa Healthcare*. 2 (1): 7 – 14.
- Kamaruddin Norfaryanti, Mohayidin Mohd Ghazali, Suandi Turiman, (2008). Implementation of Outcome-Based Education in University Putra Malaysia: A Focus on Student's Learning Outcomes. *International Education Studies*, 1 (4): 147 – 152
- Killen, R. & Spady, W. (1999). Using the SAQA Critical Outcomes to Inform Curriculum Planning in Higher Education in South Africa. *South African Journal of Higher Education*. 14 (1): 200 – 208
- Killen, R. (1998). *Effective Teaching Strategies: Lessons From Research and Practice*. 2nd Edition. Wentworth Falls, Australia: Social Science Press, 2: 60 – 80
- Killen, Roy, (2000). *Outcome-Based Education: Principles and Possibilities*. Unpublished Manuscript, University of Newcastle, Faculty of Education.
- Kirk, D. & Welborn, L. (1992). The Impact of Outcome-Based Education and the Library Media Program. *Colorado Libraries*. 18: 5 – 9
- Mayer, E. (1993). *Putting General Education to Work: Report of the Committee to Advise the AEC and MOVEET on Employment-Related Key Competencies for Postcompulsory Education and Training*. Australia: Department of Employment, Education and Training.
- McNeir, G. (1993). *Outcome-Based Education: Tools for Restructuring*. Oregon School Study Council Bulletin. 1: 162
- Schlafly, Phyllis, (1993). *What's Wrong with Outcome-Based Education*. Unpublished.
- Spady, W. (1994). *Outcome-Based Education: Critical Issues and Answers*. Arlington, VA: American Association of School Administrators. pp. 1 – 5
- Spady, W. G. (1994), *Outcome-Based Education: Critical Issues and Answers*. Arlington, VA: American Association of School Administrators.
- Spady, W.G. (1998), *Organizing Results: The Basis of Authentic Restructuring and Reform*. *Educational Leadership*, 46 (2): pp 4 – 7.
- Spady, Bill (1980). *Outcome-Based Education: A Conversation with Bill Spady*. Utah. Unpublished.
- Spector, J. Brooks, (2010). *Analysis: RIP Outcome-Based Education and Don't Come Back*. *Daily Maverick Magazine*. pp. 1 – 3
- University Putra Malaysia (2004). *Module 1 Learning Outcomes Initiative, How to Develop Outcome Based Programme*. Center for Academic Development (CADe), UPM; 1: 30 – 45
- Valizadeh S, Mohammadpour Y, Parvan K and Lakdizaji S, (2009). The Effects of Outcome-Based Education on Nursing Students' Clinical Competency. *Iranian Journal of Medical Education*. 9 (2): 157 – 166.
- Wellington, J. (2000). *Educational Research: Contemporary Issues and Practical Approaches*. London, Biddles Ltd, Guildford and King's Lynn. pp. 69 – 122