International Journal of Educational Administration and Policy Studies

Full Length Research Paper

Teaching-learning quality assurance benchmarks and characteristics that promote learner outcomes among Public Administration students at Uganda Management Institute: An exploratory study

Benon C. Basheka*, James L. Nkataand and Maria B. Barifaijo

Uganda Management Institute. P.O.BOX 20131, PLOT 44-52 JINJA ROAD, KAMPALA-UGANDA

In today's academic environment, leaders at higher educational institutions face increasing demands as stakeholders' expectations rise and resources diminish (Randall and Coakley, 2007). This paper examines student's perspectives on the measures of teaching –learning quality assurance benchmarks and study environment conditions, which are likely to promote attainment of the learners' outcomes. Of the 294 students who were sampled for the study, 279 returned the completed survey instrument suggesting a response rate of 94.5%. The paper identifies critical learning and teaching quality assurance benchmarks and a number of facilitator-student behaviors considered by students as pertinent for the realization of their learning outcomes. The results are original and compare well to the existing body of local and international literature.

Key words: Learners' outcomes, quality assurance benchmarks.

INTRODUCTION

Around the world, higher education is under pressure to change with the universities and other institutions now expected to create knowledge, to improve equity, and to respond to student's needs efficiently (OECD, 2003). In today's academic environment, leaders are confronted with increasing demands to transform their institutions, as stakeholders' expectations have risen and resources have diminished (Randall and Coakley, 2007). The interests of learners have increasingly received attention among all educational institutions.

In the management, development institutes (the MDIs), the largest number of students are adult learners. Adult education or 'andragogy'- the art and science of helping adults (Knowles, 1980) has a long debate not only in higher educational institutions but in other human development efforts. Mature learners have greater depth and broader variety of life experiences when entering learning and their learning can better be facilitated when

the instruction is related to these experiences. Most adults have concrete immediate goals and when involved in a workshop addressing a specific skill or set of issues, have little patience with a facilitator's idea of what is important for them to learn (Dwyer, 2004).

Methods for helping adults learn can be described in four categories: instructor-centered, interactive, individualized and experiential. Usually choosing the most appropriate method is dependent on the characteristics of the specific group and the nature of the expected learning outcomes (Cranton, 1989). For example, Tinto (1975) proposed a model suggesting that students succeed or fail (stay or leave) as a result of their interactions with an institution as an organization. Students begin their higher education experience carrying a large quantity of unknown but highly influential baggage, the model suggests. In a bid to ensure more inclusive education, outcomes based education has increasingly been adopted in

*Corresponding author. E-mail: bbasheka@yahoo.co.uk.

a number of countries (Aldridge et al., 2006).

Institutions of higher learning should strive at promoting quality. According to Dimmock (1990), three elements involving the teacher, the learner and the curriculum can improve quality in education. The concept of quality in education refers, inter alia, to factors such as learners' achievements, teaching approaches and the nature (physical, cultural and social) of the school. Quality in the classroom also raises issues such as the aims, goals and means of teachers and learners (Botha, 2002). Traditionally, education quality refers to the achievement of planned education goals particularly in terms of student's outcomes and has been taken not to be different from education effectiveness (Cheng, 2003).

Quality in education has come to be equivalent to internal quality assurance which refers to efforts for improving the internal environment and processes such that the effectiveness of learning and teaching can be ensured to achieve the planned goals (Cheng, 2003, quoting Cheng, 1997). The process model of quality assurance assumes that to attain education quality, there are processes-management process, teaching process and learning process. Thus, there is a need to develop management quality indicators (leadership, decision making), teaching quality indicators (teaching efficacy, teaching methods) and learning quality indicators (learning attitude, attendance rate). In this paper, we examine the teaching–learning quality assurance benchmarks and a number of learners' expectations with significant implications for attainment of learners' outcomes of Public Administration students at Uganda Management Institute.

PROBLEM AND METHODOLOGY

It is now incontestable that education at all levels plays a significant role in the national development of any country (Fajonyomi, 2008; World Bank, 2000; Kasozi, 2003). The emphasis in education is now on problem-based learning which targets skills for the world of work. Despite the overwhelming evidence in favor of problem-based learning or outcome- based education, research in higher education has focused primarily on the institution or on the student, but not both. This has left significant weaknesses given the input-process-output context of an educational system. Studies that focus on students or institutions separately do not address the objectives of OBE. There are few studies conducted on the interaction between students, institutions and the external environment (Poch, 2005). There appears to be little evidence documenting steps taken by educators to critically evaluate their quality management practices more holistically in order to ensure that the various meanings and perceptions of quality are adequately assessed (Becket and Brookes, 2006).

At Uganda Management Institute, students fill evaluation forms at the end of each module and hardly are these evaluations critically analyzed to examine the extent to which learners' outcomes are attained. To the best of the researcher's knowledge, no systematic scholarly study has been conducted on this important area. To fill this knowledge gap this study was undertaken with the central questions:

1. To what extent do the teaching-learning quality assurance systems or benchmarks contribute to the attainment of learners' outcomes at Uganda Management Institute?
2. What learners' behaviors and characters do students consider critical for their learning that institutions should consider?

This study adopted a correlation study design approach. The researchers were interested in establishing the relationship between teaching quality assurance benchmarks and learners' outcomes. Correlation research is sometimes treated as a type of descriptive research. A correlation study describes in quantitative terms the degree to which variables are related (Amin, 2005). According to Sekaran (2003), when the researchers are interested in delineating the important variables associated with the problem, the study is correlational.

The study population included students at Uganda Management Institute from the three sectors of the economy namely public, private and the NGO sectors. From the student's records obtained from the office of the institute's registrar, this population was 1111 students. A sample size of 294 students was randomly selected for the study although 279 returned the survey instrument. This was a response rate of 94% which was above the recommended response rate of 50%. In correlation research, it is generally desirable to have a minimum of between 30-50 participants but the required sample size can be decided with statistical precision depending on how concerned one is with sampling error and the degree of confidence desired about the representatives of the sample (Amin, 2005).

The views from students on the teaching-learning quality assurance benchmarks and learners' outcomes were obtained using a questionnaire. A self-administered questionnaire that included sections on the demographic characteristics of respondents and main study variables was administered. The teaching/learning quality assurance benchmarks had 13 items (alpha=0.59) while learners' outcomes had 89 items (alpha=0.97). The views of respondents were solicited using a five-likert point scale: 5=strongly agree; 4=agree; 3=undecided; 2=disagree and 1=strongly disagree.

RESULTS AND DISCUSSION

The background characters of respondents

The survey results were from 279 students of Uganda Management institute. These involved 144(51.6%) male students and 135(48.4%) females pursuing public administration/management courses. This gender distribution is suggestive of the gender gaps in the education of 'boys' and 'girls' but also indicates the deliberate strategies that have been taken to improve the education of females in Uganda. The students were at different levels of educational attainment. It was found that 265(95.0%) of the students were pursuing post-graduate diplomas, 8(2.9%) were pursuing ordinary diploma programmes and only 4(1.4%) were on Masters Degrees.

Among the students who participated in the study, 232(83.2) students at Uganda Management institute were employed students on a full time basis compared to only 19(6.8%) students who were employed on a part-time basis and 28(10.0%) students who were unemployed. The students were on evening mode of delivery (148-53.0%), 68(24.4%) were on weekend programme at the main campus while 60(21.5%) were weekend students based in one of the satellite centers of the institute. Among all the students in this study, 3 (1.1%) were on the day programme delivery mode.

The students covered by the study specialized in different disciplines. For example 59 (21.1%) specialized in human resources management, 24(8.6%) in public administration and management, 115 (41.2%) in project management, 15(5.4%) in business management and

4(1.4%) in urban governance and management. There were also 49(17.6%) who specialized in procurement and supply chain management, 4(1.4%) in records management, 4(1.4%) in information management and 5 (1.8%) in financial management.

Empirical findings

To attain education quality, management process, teaching process and learning process must be taken into account. In this effort, there is a need to develop management quality indicators (leadership, decision making), teaching quality indicators (teaching efficacy, teaching methods) and learning quality indicators (learning attitude, attendance rate) as suggested by Cheng (2003). We measured in our study the number *of teaching-learning quality assurance benchmarks that was perceived by students of Uganda Management institute as critical for attainment of their learners' outcomes. The results which emerged were as follows-*

In Table 1, the descriptive results for the students' measures of teaching –learning benchmarks are presented. The items depict the student's understanding as adult learners on their perception of the quality assurance benchmarks from the teaching-learning perspectives. The ranking order of the mean score values for each of the items suggests that the most important teaching – learning quality assurance benchmarks perceived by students of Uganda Management institute as critical for their learners' outcomes include-

- The need for the institutions to create an environment of free interaction among students to allow effective learning
- The institution to allow interaction of students with lecturers
- The staff of the institute being a very powerful influence on students' achievement

Our findings compare and support the existing literature. For example, the World Declaration on Higher Education (1998) emphasized that one of the most significant dimensions of quality of higher education is smooth interactive network between teachers themselves and students, and students themselves and institutes, both locally and internationally. Effectively communicating with students provides teachers with better understanding of students' learning and knowledge management (Gapp and Fisher, 2006). When asked to rate the extent to which Uganda Management institute was allowing free interaction among students to enhance students' learning, it was found that 43.7% of the respondents agreed while 46.2% strongly agreed; suggesting that 89.9% of the study respondents rated this learning expectation very highly. On whether the institution allowed interaction with students, 42.7% agreed while 41.2% strongly agreed, implying that 83.9% of the students were comfortable with the environment of interaction between students and their facilitators. This offers important information on what adult learners expect from their institutions. These finding findings further support the model developed by Tinto

(1975) where it was found that students succeed or fail (stay or leave) because of their interactions with an institution as an organization.

We subsequently conducted an exploratory factor analysis to identify the most important items loaded on different principle components. It was found that of the 13, 12 items were retained and accounted for a total variance of 59.3%. The items loaded on five principle components where the first component with a total variance of 21.7% had four items, the rest of the four components had each two items with a total variance of 10.8, 10.6, 8.3 and 7.9% respectively. In Table 2, the paper presents a number of learners' outcomes which were rated by participants as having been achieved at the end of the programme. It is evident from the sixteen variables that these learning outcomes were achieved because of the teaching approaches that were used.

Sixteen variables were used to measure students' perceptions on the learning outcomes and methodo-logical approaches used in their courses at Uganda Management institute. A comparative analysis of the above items reveals important information concerning the strength of the expectations of students at Uganda Management Institute and also on the training methods and approaches that need to be used if the learning expectations are to be achieved. The participants in this study were generally very satisfied with the different measures. The areas identified from the above table suggest important areas of management concentration. All items were rated very satisfactorily on the basis of the five-likert scale since all of them had a mean score above 4. On the basis of factor analysis results, sixteen variables loaded on this component which had items measuring student centered approach to learning and the most important variables that emerged as the most critical variable measures included:

1. The need for all facilitators to use current issues to make the course interesting and meet the expectations of students
2. The facilitators should make use of real-life examples as they make the courses relevant to the adult participants or students at Uganda Management institute
3. The facilitators should always give the students chance to participate in class
4. By facilitators encouraging student participation, the student learning is enhanced
5. The facilitators should ensure that the theory of the subject matter at hand is related to the practical application as it promotes students' learning
6. As much as possible, facilitators should use local examples as they ably show the relevance of the materials, thereby enhancing students' learning

This study's findings support the theoretical prepositions suggested by a number of adult learning theorists. For example, the findings support the idea that any learning experience includes four major variables: process, content, teacher and student (Smith and Delahaye, 1987). The items loaded on the principle component presented in Table 2 cover the processes, content,

Table 1. Descriptive results for variables measuring learning –teaching outcomes indicators (N=279).

No	Item	M	SD
1.	The institution allows interaction of students with lecturers	4.17	.90
2.	The free interaction among students allows effective learning	4.32	.77
3.	The timely feedback on course works facilitates learning	3.35	1.29
4.	The students are instructed with proper methods of research	3.68	.97
5.	The longer hours a lecturer spends in class affects learning	3.43	1.27
6.	The amount a student can learn is related to family background	2.83	1.19
7.	Lack of student's discipline at home leads to indiscipline in class	3.39	1.27
8.	The teaching staffs have enough training to deal with learners	3.49	1.02
9.	Lecturers adjust when learners have some difficulty	3.02	1.16
10.	Lecturers have a unique way of dealing with difficult students	3.13	1.03
11.	Staffs are a very powerful influence on students' achievement	4.08	.90
12.	Good teaching can overcome influences of student's home experiences	3.70	1.02
13.	Facilitators are assisted regularly by logistics staff in classrooms	2.21	1.07

Reliability=0.59; KMO=.708; x2=460.878; df=78 (sig.000).

Table 2. Variables measuring learning outcomes and methodology used.

No	Item	M	SD	Loading
1.	Current issues were used to make the course interesting	4.32	.73	.77
2.	I could see the relevance of material because of real-life examples	4.32	.78	.78
3.	Students were always given the chance to participate in class	4.44	.71	.70
4.	The facilitators encouraged group participation to enhance learning	4.37	.72	.70
5.	The facilitators ensured that theory was related to application	4.27	.75	.70
6.	Facilitators used local examples to show the relevance of material	4.37	.74	.70
7.	I have become more flexible in my learning	4.24	.73	.67
8.	I have a better understanding of fundamental concepts	4.34	.72	.65
9.	The facilitators promoted discussion in class	4.42	.72	.65
10.	In this course, I learnt the key principles	4.21	.68	.63
11.	Am now more willing to change my views to accept new ideas	4.32	.81	.62
12.	In this course we were exposed to different points of view	4.19	.76	.61
13.	There were activities which encouraged the application of knowledge	4.35	.70	.60
14.	I could understand the relevance of what was taught in this course	4.33	.76	.56
15.	There were times when facilitators made us think deeply about issues	4.23	.75	.55
16.	The communication between teaching staff and students was good	4.12	.78	.51

Percentage variance=28.4%.

teacher and student dimensions.

In 1990, Knowles proposed the adult learning theory of andragogy, where five basic assumptions about adult learners were identified. It was suggested that adult learners :- (1) Are increasingly self-directed (2) Have a broad range of experiences to learn from and to share with others (3) Are stimulated to learn by immediate life situations and (4) Are motivated by internal incentives; and (5) Are problem centered. These assumptions have been confirmed through the results presented. The students of Uganda Management Institute who are adult learners have their expectations and experiences to share as many are working students and wish to see facilitators value them and enable them to participate in class. Relevant examples should be used to enable them apply the theories with their practical experiences.

Dwyer (2004) argues that there is no one best method for facilitating learning. Lectures, demonstrations and questions are elements of instructor-centered methodology, are efficient for low-level learning and are useful starting point for the adult group that is dependent, anxious or lack confidence or previous knowledge of the topic. Interactive methods utilize communication among learners as well as between the trainer and the learner. Discussion groups, group projects and peer teaching are clear examples of interactive learning. However, these methods are not an efficient methodology for learning basic facts, and may create anxiety for the new adult learner. Individualized methods are based on the assumption that people learn at different rates and this requires the trainer to provider participants with immediate and regular feedback to facilitate the learning process. During exploratory factor analysis, it was found that ten variables were loaded on the second principle

Table 3. The learning and assessment variable measures.

No	Item	M	SD	Loading
1.	A variety of assessment methods were used	3.69	1.04	.63
2.	Each class was well planned	3.47	1.05	.62
3.	The assessment was a valid test of the course objectives	3.95	.95	.62
4.	The assessment tested our understanding of key concepts	4.02	.83	.61
5.	This course was well planned	3.83	.94	.59
6.	This course was well organized	3.86	1.01	.59
7.	The learning activities helped us to achieve the learning outcomes	3.94	.88	.57
8.	The assessment related closely to the expected learning outcome	3.84	.87	.55
9.	The objectives of the course were very clear	4.12	.80	.52
10.	I found all the classes enjoyable during this course	3.77	1.02	.50

Percentage variance=6.9%.

component and were related to the methods of assessing the course, involving four variables: process, content, teacher and student (Table 3).

The shift in emphasis from traditional teaching to an emerging method like problem based learning (PBL) is largely triggered by the changing external environment; the global workplace, for which institutions are preparing their students (Yeo, 2005). It has been suggested that problem based learning encourages purposeful learning linked to predetermined objectives with the aim of ensuring that the process of knowledge acquisition is effective and efficient (Wee, 2004). The results on what the student's value from the institution's learning environment are presented in Table 4.

Adult learners have their expectations and always wish to be encouraged and involved in practical aspects of learning. All the above variables relate to this important expectation. In problem based Learning, people work in small groups with someone, usually the facilitator to facilitate learning and stimulate their thinking through interactive discussions. Typically, learners are given an exciting and challenging problem at the start of the session to brainstorm relevant issues and discuss possible solutions with real-world implications. They are then given the responsibility to take charge of their own learning by using the given problem as a guide to indicate the scope of what needs to be learnt (Enger, 2002). By using this approach, a number of benefits can be derived.

Wee and Kek (2002) asserted that learners are able to acquire integrative body of knowledge as well as a host of such skills as problem-solving, self-directed learning and group dynamics, necessary for personal growth and development. PBL learners will be able to apply a variety of skills learnt to a wider context when solving real-world problems (Marincovich, 2000); and the skills will have long term impact on a person's professional develop-ment, helping him or her to survive in the complex working world and life in general (Yeo, 2005).

Students in our study were requested to rate a number of items measuring their expectations from the instructors or facilitators of the programmes. It was found that all the eight items were rated highly by the students as seen from the mean scores which were all above the 4 on the basis of the five likert scale. When the students were asked to rate the extent to which they received the same encouragement from teachers as compared to other students during their learning experiences of the total 279 respondents for this study, 127(45.5%) responded that they strongly agreed, 110(39.4%) agreed. This suggests that a total of 237(84.9%) affirmed that all students at Uganda Management Institute were given the same encouragement to learn by facilitators. On whether the students believed that there was equal treatment of the students, 121(43.4%) agreed while 127(45.5%) strongly agreed as compared to 6(2.2%) and 25(9.0%) strongly disagreed respectively.

The views of the students on the above variables were disaggregated according to gender and it was found that of the 144 males respondents that responded to the survey instrument, 54(37.5%) agreed that they received the same encouragement from the facilitators while 71(52.6%) strongly agreed. Of the 135 female respon-dents, 56(41.5%) of the females agreed and another 56(41.5%) strongly agreed. This implies that overall, both male and female students at Uganda Management Institute believed that they had the same encouragement and opportunities to participate in adult learning which charter would imply better opportunities in attainment of their learning expectations.

While students are in class, their participation is regarded critical for their learning. In the principles of andragogy (theory of adult learning), students follow five basic assumptions where they are increasingly self-directed, have a broad range of experiences to learn from and to share with others, are stimulated to learn by immediate life situations, are motivated by internal incentives; and are problem centered. Table 5 presents the students' responses on the expected areas and ways of how they need to apply the above basic assumptions.

As can be inferred from the above table, the results signify the student's perception on the systems and pro-cesses in Uganda Management Institute that are critical for learning and quality enhancement. The ways the students perceive application of their own experiences involve:

(1) Students being allowed to discuss amongst them-selves how to go about solving problems;

Table 4. Characters valued most from facilitators by students.

No	Item	M	SD	Loading
1.	I receive the same encouragement from the teachers as other students do	4.27	.81	.74
2.	I am treated the same as other students in this class	4.31	.73	.73
3.	I get the opportunity to contribute to class discussions as other students	4.37	.70	.72
4.	I have the same amount of say in this class like other students	4.33	.71	.71
5.	I get the opportunity to contribute to class discussions as other students	4.37	.70	.66
6.	I receive the same encouragement from the teachers as other students do	4.27	.81	.65
7.	My work receives as much praise as other students' work	4.00	.96	.62
8.	The facilitator gives much attention to my questions as he does to other students	4.09	.92	.53

Table 5. Students' perceptions on what they value as facilitator-student factors critical for their learning.

No	Item	M	SD	Loading
1.	The facilitator gives much attention to my questions	4.09	.92	.70
2.	I also ask the teacher questions	4.07	.82	.69
3.	The facilitators ask me questions in class	3.95	.90	.68
4.	I do explain my ideas to other students	4.18	.71	.62
5.	My ideas and suggestions are used during classroom discussions	3.93	.79	.61
6.	I am asked to explain how I solve problems	3.80	.96	.56
7.	Students discuss with me on how to go about solving problems	4.19	.81	.53
8.	I carry out investigations to answer questions coming from discussion	3.77	.87	.51

Table 6. Means, standard deviations and factor loadings for individual student characteristics.

Items	M	SD	Loading
I work with other students on projects in this class	4.14	.96	.64
When I work in groups in this class, there is team work	4.35	.72	.61
Students work with me to achieve class goals	4.28	.73	.60
I share my books and resources with other students when doing assignment	4.37	.77	.57
I cooperate with other students when doing assignment work	4.35	.82	.55
I carry out investigations to answer questions that puzzle me	3.90	.86	.54
I carry out investigations to answer teacher's questions	3.85	.86	.53
I carry out investigations to answer questions that puzzle me	3.90	.86	.50

(2) Students being allowed to explain their own ideas to fellow students;
(3) The facilitator giving students much attention to their questions during class and;
(4) Students being allowed to ask questions.

The last set of variable items was loaded on the fifth principle component and was found to be associated with the students' characteristics which are viewed by the majority students as being essential for adult learning. Table 6 gives a summary of these findings.

The above table presents results on students' perceptions about the characteristics which all students were expected to have if the overall learners' outcomes were to be achieved. Quality learning is a function of the three elements that can improve quality in education, and these include the teacher, the learner and the curriculum (Dimmock, 1990). This study immensely benefited from the human capital theory, which suggests that individuals consider investing time and money in a higher education to gain marketable skills (Becker, 1990).

According to this theory, the decision to actually attend or continue attending college largely depends on whether and how much the expected returns outweigh costs. All the items in Table 6 were rated highly by the respondents as important students' characters critical for learning and eventual attainment of learning outcomes and acquisition of skills needed for all the management students. All the items that were retained from the factor analysis examinations had a total variance of 51.6% and the KMO was 0.908 (Sig.0.000). The most important component had a total variance of 38% followed by the next two components, which had a total variance of 6% each.

Conclusion

Schools, universities and other learning institutions now encounter far more challenges and face unprecedented levels of external scrutiny from a variety of stakeholders.
Satisfying the interest of these stakeholders is therefore very pertinent. Students are increasingly becoming

influential in the management of educational institutions and their expectations have to receive serious consideration. The shift from the traditional methods of delivery to new modes of delivery; facilitated by the ever changing information technology remains at the shoulders of higher educational institutions that will succeed in the increasing knowledge based society (World Bank, 2002). Effectively communicating with students provides teachers with better understanding of students' learning and knowledge management (Gapp and Fisher, 2006). Any learning experience includes four major variables: process, content, teacher and student (Smith and Delahaye, 1987). This paper has presented a number of students' expectations from the teaching-learning quality perspective which institutions should address.

REFERENCES

Aldridge MJ, Laugksch CR, Seopa AM, Fraser JB (2006). 'Development and Validation of an Instrument to Monitor the Implementation of Outcomes-based Learning Environments in Science Classrooms in South Africa', Int. J. Sci. Educ. 28(1):45-70.

Amin ME (2005). Social Science Research Methods: Conception, Methodology and Analysis, Makerere University Printery, Kampala.

Becket N, Brookes M (2006). Evaluating quality management in university Departments, Qual. Assurance Educ. 14(2):123-142.

Becker F (1990). The Total Workplace, Van Nostrand Reinhold. New York, NY

Botha RJ (2002).Outcome-based education and education reform in South Africa. Int. J. leadersh. Educ. 5(4):361-371.

Cheng YC, Tam WM (1997). 'Mult-models of quality in education', Qual. Assurance Educ. 5(1):22-31.

Cheng YC (2003). "A CMI-triplization paradigm for reforming education in the new millennium", Int. J. Educ. Manage. 14(4):156-174.

Cranton P (1989). 'Planning instruction for adult learners' Wall and Thompson, Toronto: Wall & Thompson

Dimmock C (1990). Managing for quality and accountability in Australian education. Educ. Rev. 42(2):197-206.

Dwyer RF (2004), 'Employee Development using adult education principles', Ind. Commer. Training 36(2):79-85.

Enger KB (2002). 'Problem based learning: evolving conversations and strategies for library instruction', References service review 32(1):54-59.

Gapp R, Fisher R (2006). 'Achieving excellence through innovative approaches to student involvement in course evaluation within the tertiary education sector', Qual. Assurance Educ. 4(2):156-166

Kasozi AB (2003). University Education in Uganda: Challenges and Opportunities for Reform of Higher Education, Fountain Publishers, Kampala.

Marincovich M (2000). 'Problems and promises in problem-based learning', In: Tan OS, Little P, Hee SY and Conway J (Eds), Problem Based learning: Educational innovations Across Disciplines- A collection of selected papers, Temasek centre for problem-based learning, Singapore pp.3-11.

OECD (2003). Education Policy Analysis, 2003 edition, OECD Paris.

Poch S (2005). 'Higher education in a box', Int. J. Educ. Manage. 19(3):246-258.

Randall LM, Coakley LA (2007). 'Applying adaptive leadership to successful change initiatives in academia', Leadersh. Organ. Dev. J. 28(4):325-335.

Knowles MS (1980). The modern practice of adult education: From pedagogy to andragogy. Chicago: Follett.

Sekaran U (2003). Business Research Methods for Managers: A Skill-Building Approach, 4th edition. NY: John Wiley & Sons, Inc.

Smith BJ, Delahaye BL (1987). How to be an effective trainer. New York: Wiley.

World Bank (2002). Constructing Knowledge societies: New Challenges for Tertiary education. The World Bank, Washington D.C

Tinto V (1975). Dropout from higher education: A theoretical synthesis of recent research. Rev. Educ. Res. 45:89-125.

Wee KNI (2004). Jump Start Authentic Problem-Based Learning: Rewriting Business Education, Prentice Hall, Singapore

Wee KNL, Kek YCM (2002). Authentic Problem-based learning: Reviewing business education, Prentice Hall, Singapore

Yeo KR (2005). 'Problem based learning: a suitable approach in tertiary education?', In: Tan K, Mok J, Lee M and Ravinddran R (Eds). Problem based learning: New Directions and Approaches, Temasek centre for problem based learning, Singapore pp.93-113.