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TQM IN BUSINESS EDUCATION IN MALAYSIA: A CASE STUDY BASED ON THE APPLICATION OF NOMINAL GROUP TECHNIQUE

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Abstract

There is a growing concern about the capabilities and competencies of the graduates produced by our institutions of higher learning. Higher learning institutions must respond to the challenges faced by business community by providing graduates competent in all important aspects of performance to meet the expectations of the employers. The present paper is intended to assist Ungku Omar Polytechnic, Malaysia, to meet the challenges it is facing. The major objective of this paper is to present a report of gathering, analyzing and interpreting the views of various stakeholders, namely, students, lecturers and administrators regarding how to improve teaching and learning effectiveness at the Commerce Department, Ungku Omar Polytechnic. Nominal Group Technique is utilized to gather the data. Three nominal group sessions were conducted for each of the above three groups of stakeholders. These groups have identified three specific areas to improve and rank them highly. These are (1) content expertise (2) instructional design skill and (3) instructional delivery skill. Each specific area has been elaborated giving specific details. The paper concludes by providing a number of recommendations to the above-mentioned department.

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INTRODUCTION

Like many areas in society, quality issues have become into focus also in higher education all over the world. Over the past few years, there has been a great deal of debate over the value of business programs and whether graduates are actually prepared to manage companies. Many people contend that the business environment is changing from the world of financial managers to a technical world, while manufacturing is regaining its importance. Today's executives have to be more sophisticated and have in-depth knowledge in a manifold of areas including the international world.

Results from a Canadian survey (Litchfield, 1993) revealed that business schools were not doing an adequate job to continuous improvement. While these sentiments are echoed throughout the education industry, some institutions such as Ungku Omar Polytechnic (UOP), have started to address the growing concerns of quality in education imparted by the institution. Institutions of higher learning must now deal with increasing student costs, rising institutional expenses, demand for capable, flexible and adaptable graduates and the power of new electronic technologies. These institutions can no longer cite traditional academic imperatives (the search for truth and knowledge) as reasons for ignoring the economic realities of their customers. Doing more to boost productivity and reducing cost is not sufficient. On a continual basis, the curriculum of student learning must be reviewed, reformulated and approaches are to be taken to redesign higher education. In order to prepare students for the twenty first century, we need to provide students with skills and abilities in analytical thinking, problem solving, improve interpersonal skills and the ability to use computers. Present day employers' requirements surround these areas.

This paper demonstrates lecturers of UOP how they can make improvements in their teaching practices to meet the expectations of their customers. It is also intended to assist educators to identify a set of quality teaching practices to improve teaching and learning effectiveness in an academic institution like UOP. By listening to their stakeholders: students, staff, administrators' views on teaching effectiveness, Malaysian business schools can begin to build quality and continuous improvement into their programs and provide students with the abilities required to fulfill the expectations of Malaysian businesses. In the era of changing students' demographics, diminishing government funds and dramatically increased competition, educational

institutions in Malaysia have discovered the need for implementing the principles of Total Quality Management (TQM). With resources becoming more limited, efficiency and effectiveness in meeting the needs of the customers become more critical. The major focus of TQM is to satisfy customer's needs. Gore (1993, page 356) comments:

"Properly applied, we can expect TQM to impact the quality of teaching by encouraging a culture more open to change, teamwork, cross functional co-operation and new technology."

UOP, like other institutions, has a multiplicity of customers. Students can be considered as the main customer group and therefore should be given the focus. To this end, an excellent place to start is by satisfying the students' needs and emphasizing on design quality and defect prevention on the teaching and learning process.

QUALITY MOVEMENT IN HIGHER LEARNING INSTITUTIONS

Quality is a concept which applies traditionally to manufacturing and production. TQM is concerned with promoting organizational effectiveness through the excellence, reliability and quality of an organization's goods and services. The term quality is neither new nor alien to the field of education. We have been concerned about quality of our teachings and the quality of our graduates long before the introduction of TQM concepts. Idrus (1996) has cited several ways in which the area of Education is similar to the traditional business areas. It is expected that application of TQM in Education will bring the same benefits as it does in traditional business areas.

In quest of improving teaching and learning, TQM has been adopted by numerous institutions of higher learning around the world. According to Idrus (1996), in UK, the expansion in education in the 1960s created a financial pressure on educational institutions; this necessitated to adopt TQM. Idrus further contends that, in Continental Europe, centralized control appears to be the norm in a number of countries and the adoption of TQM by educational institutions is a matter of compliance. In Australia, the Commonwealth Tertiary Education Commission (CTEC) made quality a central issue in the institution of higher learning. In New Zealand, moves on quality have been made in a sporadic manner by individual education institutions (Rivers, 1994). A review (Marchese, 1993) showed that eight out of ten institutions in the USA have now embarked on TQM implementation.

In Malaysia, the pursuit of quality, productivity and excellence in the management of organizations, be it in the public or private sector, has become a national movement. A concerted effort began in 1989 with the launching of the "Excellent Work Culture" by the Prime Minister. The Prime Minister's Quality Award, the QCC convention, the Quality Day campaign, and a massive training in quality courses are reflective of the government's aspiration towards quality improvement. Private and public sector organizations and industries including educational institutions responded positively to the Prime Minister's call and are making efforts to apply the elements of TQM in management and work culture.

From Malaysian perspective, there is a growing interest in applying TQM in education for a wide variety of reasons including:

- pressures from industry
- increasing competition among various academic institutions, and
- a reduction in the pool of money for research and teaching, thus meaning that only reputable institutions will have chance of gaining access to various funds (Zairi, 1995).

Zairi further contends that the institutions failing to meet challenges of continuous improvement in higher education will have to face the painful consequences of huge drops in their students recruitment levels, lack of adequate money for conducting meaningful research, inability to attract and retain high-caliber staff and poor standing in the immediate communities. In order for organizations to create differences in today's economy, they must be able to group the ideas and philosophy of quality movement and adopt selective strategies – strategies that can address their needs. Their ability to do this depends a lot on their ability to be a learning organization.

Today, the application of quality concept is starting to show in many higher learning institutions in Malaysia. This may partly be in response to the country's aspiration in making Malaysia the Regional Center of Excellence for Education. In order to prepare for the 21st century, the Malaysian institutions must consciously embark on a systematic and comprehensive quality transformation. With its strategic location, affordable educational costs and good educational infrastructure, this aspiration may be very well realized in the near future.

QUALITY EDUCATION AT UOP

Ungku Omar Polytechnic is not sitting idle in the quality movement. It has started its ISO 9002 initiatives to respond to the National Quality Movement. The ISO 9002 system, which is an internationally recognized quality management system, has been used as management guide in UOP. Activities such as excellent work culture and massive training in the quality related courses are reflective of UOP's as' :ation towards quality movement. The main reasons for aspiring certified standards and for adopting the ISO 9002 are to improve performance, improve customer satisfaction, teamwork, productivity, and communication efficiency (Idris, 1996).

The issue of what constitutes high quality teaching and learning is one which is of prime importance in the development of quality assurance system. There is a growing consensus that high quality teaching is not just about the implementation of high quality teaching skills. High quality teaching is that which leads to high quality learning (Ramsden, 1992).

Quality teaching and learning in higher education is an issue of sustained concern. Johnson and Golomski (1999) have identified four issues pertaining to quality in education:

- incorporation of quality concepts in curriculum.
- using quality concepts to improve educational administration.
- using quality concepts to improve the teaching of any subject.
- quality concepts in doing research.

Higher education institutions throughout the world are engaged in the pursuit of excellence. For many, the term "excellence" is synonymous with 'quality'. Ungku Omar Polytechnic, like other higher education institutions in Malaysia, has a mission statement that seeks to enhance learning for all students. There has been a lot said recently about the need for improvement and reform in the Malaysian Higher Educational Institutions. There is a growing discontent with the quality of our graduates, that is, their capabilities and competencies. There is a need to acknowledge this deficiency in terms of the expectations of business and industries; otherwise we would not be able to realize Vision 2020, what more to contribute to the global

competitiveness of Malaysia as the center of educational excellence in Asia. It is important that if there are inefficiencies in the existing teaching methods, that they are identified and critically examined to attain a higher standard of teaching-learning process. The present study is hoped to aid Ungku Omar Polytechnic achieve its mission of being one of the educational centers of excellence in Malaysia. It is hoped that the findings of the present study will provide policy makers the basis in making decisions on how to improve the teaching-learning process. In particular, it will help them to formulate effective programs and strategies to design a better curriculum. This paper illustrates how Nominal Group Technique (NGT) can be used to facilitate improvements in teaching, learning practices at the Commerce Department, UOP. In the following, a brief description of NGT is provided.

A BRIEF DESCRIPTION OF NOMINAL GROUP TECHNIQUE

The nominal group technique (NGT) is a structured brainstorming technique. It was developed in late 1960s by Andre Delbecq and Andrew Van de Ven. A comprehensive description of the technique can be found in Delbecq et al. (1975). The technique was designed to maximize the number of ideas generated by a group and to balance participation of all group members. In a traditional brainstorming session, it is invariably observed that some group members are dominating the session and they try to impose their ideas on the majority. NGT was developed mainly to alleviate this difficulty. It is ideally suited in identifying problems, exploring solutions and establishing priorities on the generated solutions. It structures group interactions in order to elicit the information and judgments of individual participants and to promote the development of a consensus among the group members.

According to Delbecq et al. (1975), NGT was specifically designed to:

- circumvent factors that have an adverse impact on groups, such as verbal aggressiveness and status.
- enable groups to generate more alternatives than the limited number they would produce in a traditional interacting group.
- allow a group to be effective even if the member of the group does not know one another.

NGT has the following four characteristics:

- Individual participant's work occurs before group discussion. Each individual member's ideas are shared in a round-robin way.
- A period of structured group discussion provides clarification.
- Ranking and polling of items is used to condense responses to specific solutions.
- Individual and group work face to face.

The technique has the following four (elaborated) steps:

Step 1: Silent generation of ideas in writing: The nominal group session facilitator distributes the question on individual sheets of paper and displays it before the group. In response to this stimulus question, the participants are asked to jot down their ideas silently and independently. Approximately 10 minutes may be allocated to do the job.

Step 2: Round robin recording of ideas: From an end of the first row of the meeting room, each participant, one by one, is asked to present orally the most important item on his/her list in a phrase or brief sentence without discussion, elaboration or justification. The facilitator then records the item on the flip chart at the front of the room. The procedure continues until all participants' responses are listed on the flip chart. The advantage of round-robin recording is that every participant has an equal and fair chance to express ideas. The use of round robin method encourages the contribution of ideas even by timid group members.

Step 3: Serial discussion on the listed ideas: Facilitator explains that the purpose of this step is to clarify the ideas presented. After all items are listed on the flip chart, the facilitator then reviews all responses to clarify any unclear item. Anyone can clarify or comment on any item. If someone asks about the meaning of one of the items, it is better to encourage someone other than the contributor of that particular item to clarify what it means to him/her.

Step 4: Voting to select the most important ideas: On a new sheet of paper, each participant is asked by the facilitator to record the five items they deem most important to the issue concerned and to rank them from 1 to 5 with 5 being the most critical.

When everyone has completed the process of rank ordering the items, the facilitator records all the individual ranking on the flip chart. Then he/she totals the ranks (weights) for each item. The five items with the highest weights are the outcomes of the session.

For a successful nominal group session, the following rules should be observed:

- no criticism on any idea during the session.
- the more unusual and original the idea, the better.
- while generating ideas, quantity, not quality is the main objective.
- dissecting, modifying and commingling of ideas is desirable.
- anonymity of input.
- defer in-depth evaluation until all the inputs are displayed.

From application point of view, NGT has been highly successful. The technique has been applied in numerous areas some of them are: Consumer Research (Claxton et al., 1980), Education (Debra et al., 1998), Management Training (Taffinder & Conard, 1987; Scott & Deatrick, 1982), Productivity Measurement (Gregerman, 1981), Social Problems (Moore, 1987), Total Quality Management (Roth et al., 1995). In this paper, the authors attempt to apply NGT to improve teaching and learning effectiveness in a classroom.

WHY NGT FOR THIS RESEARCH

It is a recognized fact that decisions emanating from a group are superior to those that come from an individual (Delbecq et al., 1986). Estimation utilizing group formats can lead to increased accuracy, confidence and satisfaction over individually aggregated estimates. Groups are better to identify customers' needs, problems in the organizations and propose solutions to problems. Groups are also used to determine how to measure the performance of a firm as it strives towards continuous improvement. Moore (1987) cites the following four reasons in using group rather than an individual:

(1) A group can do something better than an individual, *"It is logical that if you properly combine the judgment of a large number of people you have a better chance of getting closer to the truth"* (Helmer, 1981)

(2) In order to understand social phenomenon, it is often necessary to obtain the views of the actors.

(3) It is often beneficial to use groups if someone is concerned about the resistance in implementation.

(4) Complex, ill-defined problems often can be addressed only by pooled intelligence.

There are many group decision-making techniques: Brainstorming (Osborn, 1957), Delphi (Linstone & Turoff, 1977), Brilhart's Interactive Process (Brilhart, 1986), Ideal Solution (Larson, 1969), Kepner/ Trego Method (Kepner & Trego, 1969), Nominal Group Technique (Delbeeq, 1975), Standard Agenda (Wood, Philips & Pederson, 1986). NGT is preferred because it can generate a large number of ideas from a group within a short period of time. Many research works have proved that NGT is better than many other group decision making techniques including Delphi and traditional brainstorming (Debra et al., 1998; Roth et al., 1995; Aiken et al., 1997). The major advantage of NGT is that it renders a balanced participation among group members. Frankel (1987) writes,

"The Nominal Group Technique which provides multiple high ranking alternative solutions representing important information is considered one of the best structured techniques available."

CONDUCTING NOMINAL GROUP SESSIONS

It has already been mentioned that in Ungku Omar Polytechnic (UOP), efforts are already taken to seek ISO 9002 certification. Improving quality in teaching and learning is an ongoing process. Staying on this issue, the first author of the paper conducted 3 nominal group sessions taking the following 3 distinct groups from the Commerce Department of UOP.

- Twelve Diploma in Business Studies final year students
- Nine lecturers
- Six administrators

Administrators are one of the stakeholders in an academic setting, so their views are also taken. In the following, the specific details of NGT steps for the first group (i.e.,

students) are provided. A brief summary of NGT sessions for the other two groups is followed subsequently. As the facilitator, she posed the question, "What are the factors to be looked into in order to improve teaching and learning in UOP?"

Step 1: Silent generation of ideas in writing: The participants, i.e., the students, were given 10 minutes time to jot down their ideas, as many as possible, on a piece of paper. The facilitator also reminded them that she would not be collecting their list, therefore good penmanship and handwriting is unimportant. In order to enhance individual inputs, during this period of the process, there was no discussion among participants.

Step 2: Round-robin recording of ideas: In the round-robin fashion, each participant was asked to identify and articulate the most important item on his/her list while facilitator recorded the item on the flip chart placed at the front of the room. Items were recorded as the participants put in their own words. After conducting three complete rounds, the facilitator kept the session open for participants to come forward and contribute to the pool of ideas already recorded. No evaluation of items was allowed as items were recorded. The whole session lasted about 90 minutes. Altogether thirty items were generated from this group which are shown in Table1.

Step 3: Serial discussion on the ideas: After all items were written on the chart, the facilitator then reviewed all responses to clarify items that were unclear. This step is necessary (1) to ensure that all participants understand the meaning of each item clearly and (2) to make sure that the meaning of a particular item is same to all, i.e., no idea should be visualized differently. Specifically, the distinction between the meanings of 'conducive climate for learning' (Item 5) and 'adequate learning facility' (Item 21) was made clear.

Step 4: Voting: On a new sheet of paper, each participant was directed to record the 5 items they deemed most critical to the improvement of teaching effectiveness. They were asked to rank order these items from 1 to 5, with 5 being the most important and 1 being the least important. The intermediate three ideas received 4, 3 and 2 respectively. All participants ranked order their choices simultaneously.

Table 1: Ideas Generated from the Students

No.	Ideas	NGT Weights	NGT Ranking
1	Friendly student-lecturer relationship	5+3+1= 9	9
2	Two-way communication	2+5+5+3+4 = 19	2
3	Lecturers have in-depth knowledge	5+2+2+5+3+2 = 19	2
4	Adoption of variety and innovative teaching methods – multimedia	5+4+4+4+5+4 = 26	1
5	Conducive climate for learning	3+3+3+1= 10	7
6	Outside classroom learning		
7	Reduce contact hours per day		
8	Current issues assimilated in class	3 = 3	
9	Balanced co-curriculum	1 = 1	
10	Effective classroom management — distribute handouts before lecture	4+4+2+2+1+1 = 14	5
11	Reduce lecturer's workload	1 = 1	
12	Consistent review on topics discussed		
13	Lecturers-students project suitable image	5 = 5	
14	Make learning fun and interesting		
15	Lecturers not too serious	3 = 3	
16	Lecturers encourages students participation		
17	Smaller number of students in a class	3+2+3+2 = 10	7
18	Discuss real life examples in classroom	1+4 = 5	
19	Improve students admission system	5 = 5	
20	Improve discipline		
21	Adequate learning facilities	2+1+1+5+5+2 =16	4
22	Better scheduling of classes – adopt flexible time	5 = 5	
23	Lecturer possess good teaching skills	4 = 4	
24	Expose students with Internet knowledge		
25	Effective lesson planning	4+3+1= 8	10
26	Easy access to references	4+3+2+2+1+1 = 13	6
27	Mentor-Mentee program for better guidance		
28	Regular motivational programs		
29	Effective communication within the system	4 = 4	
30	Administrators' effective decision making		

Next, the facilitator recorded all the individual rankings on the chart. Then the ranks of each item were totaled. The 10 items with the highest total weights are shown in Table 3. After completing all the NGT steps, a discussion was provided for further clarification on the major areas to be addressed in the improvement process of teaching and learning at the Commerce Department of UOP.

The master list of ideas generated from the lecturer group is shown in Table 2. The selected 10 items (deemed most important) by this group are shown in Table 4. Most of the ideas generated by administrators are same as students and lecturers. To save space, the detailed list has been omitted.

Remark: In this study, though a formal nominal group session consisting of the business community was not conducted, the authors held some informal discussions with them. Their views support the findings of this research.

A COMPARATIVE STATISTICAL STUDY

It is interesting to note that the 10 items identified by all the three groups to improve teaching and learning effectiveness are same, though their ranking varies. The 10 items and their corresponding rankings assigned by the groups are shown in Table 5.

In the present case, since the ranks of the 10 items assigned by different groups are not same, rank correlation coefficients (r.c.c) are computed to perceive the degree of agreement between the groups. Further, since the data constitute only a sample from the population of students, lecturers and administrators, a hypothesis test is performed in order to decide whether the computed r.c.c is large enough to conclude that the variables are positively correlated. The null and alternative hypotheses are the following:

Ho: Group 1 (say students) ranking and group 2 (say lecturers) rankings are uncorrelated.

Ha: Group 1 (say students) ranking and group 2 (say lecturers) rankings are positively correlated.

Table 2: Ideas Generated from the Lecturers

No.	Ideas	NGT Weights	NGT Ranking
1	Lesson objectives clearly spelled out and achieved	1　　　　　= 1	
2	Lecturers have in-depth knowledge on subject area	4+5+4+5+4 = 22	1
3	Lecturer is confident	2　　　　　= 2	
4	Sensitive & receptive to students needs		
5	Effective classroom management	5+2　　　 = 7	8
6	Friendly lecturer-student relationship	2+3+3+2+5 = 15	3
7	Innovative teaching – multimedia...	1+3+1+1　 = 6	9
8	Lecturers able to control class		
9	Demonstrate commitment		
10	Motivated lecturers and students	3　　　　　= 3	
11	Students are active learners		
12	Effective lesson planning	4+4　　　 = 8	7
13	Conducive climate for learning	3+2+3+3　 = 11	5
14	Adequate learning facilities	5　　　　　= 5	10
15	Able to make learning fun & interesting	2+1　　　 = 3	
16	Guide students search for knowledge	4　　　　　= 4	
17	Well coordinated study materials and lectures		
18	Small group of students	5+ 4　　　 = 9	6
19	Send lecturers for training	1　　　　　= 1	
20	Support from management		
21	Lecturers are rewarded appropriately		
22	Cooperation from all		
23	Limit lecturer's subject (2 per semester)		
24	Assign subjects according to lecturers' expertise	4　　　　　= 4	
25	Effective 2-way communication	5+1+1+3+2+1= 13	4
26	Lecturers willing to be on-call to attend to student's questions		
27	Elicit discussions in the lecture room		
28	Prepare students for exams		
29	Clarity in presentations – voice		
30	Effective teaching methods/aids – OHP		
31	Sufficient textbooks for references	5+2+3+4+5 = 19	2
32	good decisions by the administrators		
33	Autonomy in decision making		
34	Able to arouse interest on the subject	2　　　　　= 2	

Table 3: Top 10 Ideas Selected by Students

No.	Ideas	Absolute Weight	Relative Weight	Percentage	Rank
1	Adoption of variety and innovative teaching methods	26	0.181	18.1	1
2	Two-way communication	19	0.132	13.2	2
3	Lecturers have in-depth knowledge	19	0.132	13.2	2
4	Adequate learning facilities	16	0.111	11.1	4
5	Effective classroom management	14	0.097	9.7	5
6	Easy access to references	13	0.090	9.0	6
7	Smaller number of students in class	10	0.069	6.9	7
8	Conducive climate for learning	10	0.069	6.9	7
9	Friendly lecturer-student relationship	9	0.063	6.3	9
10	Effective lesson planning	8	0.056	5.6	10
	Total	144	1.000	100	

Table 4: Top 10 Ideas Selected by the Lecturers

No.	Ideas	Absolute Weight	Relative Weight	Percentage	Rank
1	Lecturers have in-depth knowledge	22	0.191	19.1	1
2	Sufficient textbooks for references	19	0.165	16.5	2
3	Friendly lecturer-student relationship	15	0.131	13.1	3
4	Two-way communication	13	0.113	11.3	4
5	Conducive climate for learning	11	0.096	9.6	5
6	Smaller groups of students	9	0.078	7.8	6
7	Effective lesson planning	8	0.070	7.0	7
8	Effective classroom management	7	0.061	6.1	8
9	Adopting innovative teaching	6	0.052	5.2	9
10	Adequate learning facilities	5	0.043	4.3	10
	Total	115	1.000	100	

The r.c.c for students and lecturers is 0.031, the tabulated critical value = 0.504 at 5% level of significance. Figure 1 shows that we should not reject the null hypothesis Ho.
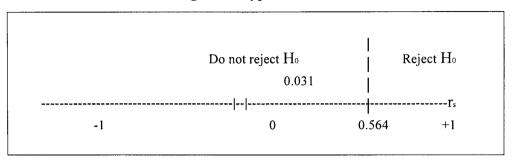
Figure 1: Hypothesis test

Do not reject Ho | Reject Ho
         0.031 |
------------------------------|--|----------------------------|-----------------r_s
          -1   0   0.564   +1

Further computations of r.c.c. for other pairs of groups are shown in Table 6.

A STUDY ASSIGNING DIFFERENT WEIGHTS TO THE GROUPS

As it is mentioned above, different rankings have been obtained by different groups for the same set of factors contributing quality in teaching and learning. An overall ranking of the factors can be obtained by assigning differential weights to the groups. Upon discussion with a number of relevant people, it was decided that students views should carry the highest weightage. But there has not been any consensus about the magnitudes of the relative weights. One of the many weighting schemes is to assign weight = 3 for students, 2 for lecturers and 1 for administrators. It was deemed as a reasonable weighting scheme. The following formula can be used to calculate the overall weights (r_i).

$$r_i = \frac{\alpha_i w_i}{\sum_i \alpha_i}$$

According to the aforementioned weighting scheme, $\alpha 1 = 3$ (for students), $\alpha_2 = 2$ (for lecturers), and $\alpha_3 = 1$ (for administrators), w_i's are the weights of the factors shown in the 'percentage' column in Tables 3 and 4. The overall weights and the rankings are shown in Table 7. Obviously, if a different set of weights are assigned to the groups, then different ranking will follow.

Table 5: The Ten Items and Their Corresponding Rankings Assigned by Different Groups

No.	Ideas	Student's Ranking	Lecturer's Ranking	Administrator's Ranking
1	Adoption of variety and innovative teaching methods	1	9	5
2	Two-way communication	2	4	5
3	Lecturer's have in-depth knowledge	2	1	1
4	Adequate learning facilities	4	10	8
5	Effective classroom management	5	8	2
6	Easy access to references	6	2	8
7	Smaller number of students in a class	7	6	10
8	Conducive climate for learning	7	5	4
9	Friendly lecturer-student relationship	9	3	5
10	Effective lesson planning	10	7	3

Table 6: Rank Correlation Coefficients for the Groups (Taken Pairwise)

Group	r.c.c. (r_s)	Critical Value (r_s, 0.05)	Action
1) Students 2) Lecturers	0.031	0.564	Do not reject H_0
1) Students 2) Administrators	0.236	0.564	Do not reject H_0
1) Lecturers 2) Administrators	0.212	0.564	Do not reject H_0

Table 7: Ranking of Factors While Assigning Differential Weights to the Groups

No.	Ideas	Students	Lecturers	Admin.	Overall weight	Rank
1	Adoption of variety and innovative teaching methods	18.1	5.2	8.1	12.13	2
2	Two-way communication	13.2	11.3	8.1	11.72	3
3	Lecturers have in-depth knowledge	13.2	19.1	20.3	16.35	1
4	Adequate learning facilities	11.1	4.3	6.8	8.12	8
5	Effective classroom management	9.7	6.1	13.5	9.13	5
6	Easy access to references	9.0	16.5	6.8	11.13	4
7	Smaller number of students in class	6.9	7.8	5.4	6.95	10
8	Conducive climate for learning	6.9	9.6	10.8	8.45	7
9	Friendly lecturer-student relationship	6.3	13.1	8.1	8.87	6
10	Effective lesson planning	5.6	7.0	12.1	7.15	9

DISCUSSION

The NGT has identified factors which are important and can contribute to improve effectiveness in teaching and learning at Commerce Department, UOP. The number of items derived from students, lecturers and administrators are 30, 34 and 26 respectively. There has been some kind of consensus on the factors to improve teaching at the said department. This is clearly reflected in items such as 'lecturer should have in-depth knowledge' and 'two-way communication'; these two factors have received higher ranking by all the three groups. The important 10 factors, which have been singled out in the 4th step of NGT, can be divided into three areas of teaching-learning.

Content expertise

Content expertise includes factors like lecturers should have in-depth knowledge in the subject area. This is one of the most important factors which enhances effective teaching-learning environment. It is suggested that lecturers should attend various programs to increase their knowledge on subjects. Activities may range from participation in professional meetings, attendance at seminars and professional programs and knowledge upgrading courses, text books preparations, etc. Any activity designed to broaden and deepen subject knowledge should be encouraged. Another factor to improve content expertise for the part of lecturers is to review the syllabus periodically.

Instructional design skill

Instructional design skill includes the adoption of variety and innovative teaching methods, for example, the availability of sufficient text and reference books, multimedia, etc. The appropriateness of various forms of instructional design varies depending on the level and target of the courses offered. To meet growing needs in our complex and dynamic nature of higher education today, the emergence of new and innovative way of teaching and learning is simple inevitable.

Instructional delivery skill

This is another common and important area found in the nominal group sessions. The two-way communication process, voice inflection, time and record management,

clarity in material presentation, classroom management and humor contribute greatly to the way a lecturer imparts his/her knowledge to the students.

The above three dimensions of effective teaching have a long history in research on teaching at the pre-university level (Bush, 1954; Rosenshine & Furst, 1973). Probably, each of these dimensions could be stimulated and supported through college programs. Efforts should be mobilized to:

- enhance the knowledge-base and understanding.
- enhance lecturers' skills required for effective teaching.
- help lecturers in organizing, managing and evaluating materials in the actual instructional situation.

Clearly, there is a positive but weak correlation between rankings provided by different groups. Further, statistical analysis reveals that rankings of the ideas provided by them are significantly different. This simply means that even though all the three groups picked up the same ten factors, but their ranking differs significantly.

RECOMMENDATIONS TO UOP

Based upon the findings of this research, the following recommendations are provided to UOP.

Form of a committee to improve teaching-learning: It is recommended to form a special committee which will provide guidelines concerning the creation of conducive environment for effective teaching-learning. The tasks of the suggested committee include helping junior lecturers develop effective teaching skills early in their career as well as continuing to improve the teaching skills among senior staff. This committee should also conduct peer review on teaching process, individual counseling, invite outside speakers, etc. All junior staff should participate in all activities, while senior staff participate periodically to avoid institution dead wood.

Establish a resource center: UOP should have a resource center aimed to be the repository of teaching materials, books, journals and other support documents and personnel to assist lecturers and students upgrade their knowledge. It should have

videocassette, audio taping and multimedia facilities to support the movement of improving teaching-learning effectiveness.

A way forward through human resource management: The concern for quality in teaching-learning must be underpinned by an effective and comprehensive approach to human resource management. The following structural and procedural imperatives could be useful so that high quality teaching becomes a reality in the Commerce Department, UOP.

- Transmission of clear messages about the centrality of teaching and learning to prospective staff during the recruitment process.
- Adoption of a selection mechanism which test candidate's attitude, motivation and practices regarding teaching.
- Provision of mandatory induction and continuing development programs which stress professional proficiency and skill acquisition for teaching.
- Establishment of reward structures and promotion criteria which acknowledge excellence in teaching.

By the first two recommendations above, it has been stressed that at the time of recruitment, the candidates are to be made aware about the quality movement at UOP.

CONCLUSIONS

Educational institutions around the world are embracing, adopting and implementing TQM in their operations. Malaysian institutions are also keeping pace with the rest of the world. Any comprehensive program for the improvement of quality in teaching and learning at UOP, Malaysia should consider its stakeholder's opinion as a reliable and valid source of information. In order to improve teaching learning effectiveness, even though the stakeholders demand the same factors, their strength of preference varies significantly. To improve effectiveness, a system should be adopted and measures should be taken to align all those demands to enable everyone to understand each other's problem to move towards the same goal. The collected information through the NGT could be of significant help in the improvement of teaching-learning effectiveness at the Commerce Department, UOP. The findings of this research could

be useful to facilitate management/lecturers to concentrate on neglected but important areas while making decisions in improving the future teaching-learning process. As a final word, though the findings of this research mainly aimed at UOP, these can also be relevant to many other institutions of higher learning.

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