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**TRENDS AND ISSUES
IN IMPROVING UNIVERSITY TEACHING**

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**Paper presented at the Conference on Educational
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CONFERENCE ON EDUCATIONAL DEVELOPMENT FOR HIGHER EDUCATION

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In view of the phenomenal knowledge explosion and the increase in student admissions to tertiary educational institutions, much effort and attention have been directed towards ensuring effective teaching. Over the years, this concern has remained but different methods of teaching improvement have been tried out and alternative practices have been adopted by various universities.

In Singapore, more concerted efforts were made in improving teaching on an university - wide basis since 1981. This study reports the trends and issues related to the teaching improvement efforts at the National University of Singapore as a whole and in the Medical Faculty in particular.

The first part of the study is mainly based on the returns of a questionnaire evaluating the Teaching Methodology courses conducted in conjunction with the Institute of Education, Singapore in the past 6 years (1981 - 1986). Data from a case study of attempts by the Medical Faculty to improve teaching uses the naturalistic inquiry method to probe into the perceptions and experiences of a purposive sample of lecturers is also discussed.

Trends in University Teaching Improvement Efforts

Concerned tertiary teachers like those in the Medical Faculty have tried out different teaching improvement methods on an individual or departmental basis since the founding of King Edward VII College of Medicine (1905) and the Raffles College of Arts and Sciences (1923), and their union as the University of Malaya in 1949, and renamed the University of Singapore in 1962. There was, however, no written record of these efforts. It was not until the establishment of the National University of

Singapore (NUS) through the merger of the University of Singapore and Nanyang University in 1980 that Teaching Methodology courses were organized subsequently for its newly appointed academic staff members.

Initial University - wide Efforts

The first Teaching Methodology Seminar attracted 32 participants from 8 faculties and the library. The two-day seminar concentrated on teaching skills and instructional media. As the participants reported in a questionnaire that the seminar was useful, similar seminars were held for the following two years. 26 lecturers from 3 faculties (Arts and Social Science, Law, Business Administration and Accountancy) and the library attended the seminar in 1982, and nearly 30 from Medicine and the Arts and Social Science faculties participated in 1983.

This pattern of university-wide induction was changed in 1984, when the seminar was conducted on a faculty - basis and 6 faculties were involved. Workshop sessions were introduced so that participants could discuss teaching principles and techniques. The length of the seminar was extended to 3 1/2 days.

In the initial few years, the Teaching Methodology seminars consisted of mainly lectures and plenary sessions on teaching techniques with some hands-on experience in media materials production. The assumption of the earlier organizers was that the newly appointed lecturers did not have the necessary teaching skills and experience. Therefore, the deficiency approach of staff development was adopted. Generally speaking, it meant that the perceived needs and weaknesses of the new lecturers became the focus of the seminars. Some teaching models and techniques were presented and the participants were expected to apply what they had learned. Individual teaching skills and experience among the participants were often not differentiated and considered.

Evaluation of 1981 - 1984 Seminars

From the returns of the end-of-seminar evaluation questionnaire (usually about 70 % returns each year), the participants from 1981 to 1984 responded very positively to the seminars in general (See Fig 1 for questionnaire items). The participants were satisfied with the topics and presentation, and found the media materials production sessions very useful, but felt that their real teaching needs were often not met. Some expressed concern that their own departments and faculties had not provided adequate guidance regarding the courses and the curriculum.

The participants commented that teaching problems that are discipline - related were not adequately dealt with in large group situations. Except for the medical and law faculties,

Figure 1

Questionnaire Evaluating the NUS Teaching Methodology Seminar 1981-84

Participants are invited to complete the questionnaire by ticking off the appropriate number on the five-point scale.

- | | |
|-----------------------|--------------------|
| 1 - strongly disagree | 4 - agree |
| 2 - disagree | 5 - strongly agree |
| 3 - neutral | |

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| A <u>Overall Value of the Seminar Topics</u> | | | | | |
| 1 Learning Style | | | | | |
| 2 Teaching Style | | | | | |
| 3 Lecture Presentation | | | | | |
| 4 Conducting Tutorials/Seminars | | | | | |
| 5 Simulation | | | | | |
| 6 Course Evaluation | | | | | |
| 7 Use of Instructional Media | | | | | |
| B <u>Participants' Perception of the Seminar</u> | | | | | |
| 1 Relevancy of content | | | | | |
| 2 Met stated objectives | | | | | |
| 3 Met learning expectations | | | | | |
| 4 Satisfaction with Seminar | | | | | |
| 5 Applicability of Knowledge Gained from Seminar | | | | | |
| C <u>Participants' Reaction to Seminar</u> | | | | | |
| 1 Interaction between lectures and participants | | | | | |
| 2 Seminar was well organized | | | | | |
| 3 Seminar was conducted at appropriate time | | | | | |
| 4 Duration of seminar was adequate | | | | | |
| 5 Methods used by lectures were appropriate | | | | | |
| 6 Questions raised were adequately answered | | | | | |
| 7 Seminar was useful and beneficial | | | | | |
| 8 Objectives of seminar was made explicit | | | | | |
| 9 Methods discussed were relevant and applicable in participants' departments | | | | | |
| 10 Students would benefit as a result of the seminar | | | | | |

and the English Language and Literature Department, there was little input and advice about university teaching from senior faculty members. The lectures were not very helpful as some IE lecturers concentrated mainly on generic teaching skills with few references made to the disciplines. The 1984 faculty -based seminars remedied this situation as discipline - related teaching problems were more immediately looked into. However, the repetitive nature of the faculty - based workshops was found to be long - drawn and not very cost effective.

Throughout the years, the participants had suggested greater involvement by senior faculty members at the seminars. They suggested faculty based small group discussion. They also requested for practice sessions especially in delivery, lecturing and leading discussions. Some even suggested video recording of their lectures for self - analysis and improvement.

More Recent Approaches

Taking into consideration the experience of the previous years (1981 -1984), the comments and suggestions of participants and senior faculty advisers, research findings on new approaches to staff development (Bedner, 1987; Chen, 1985; Rome & Boud, 1984), the Teaching Methodology Seminar was reconceptualised in 1985. It aimed at giving the new lecturers an exposure to good university teaching practices and more reliable evaluation of student learning within the contexts of disciplines and professions. It also aimed at promoting a greater sense of collegiality and collaboration among the faculty members..

To facilitate learning during the 2 1/2 day seminar, new teaching approaches, delivery modes, and evaluation methods were adopted. To meet with the newly appointed lecturers' needs and requests, the developmental approach for staff training and the facilitative teaching approach were adopted. A Handbook on Teaching Methodology was developed by IE and distributed for reading before the seminar. Faculty - based workshop sessions were held following the five main lectures on instructional design and communication, large group and small group teaching, use of media and computers in instruction, and testing and evaluation of student learning. The general lecture sessions were limited to 45 minutes each while the faculty-based workshop sessions ranged between 1 - 1 1/2 hours.

Senior faculty members led the workshop sessions as chairpersons while IE lecturers acted as facilitators/resource persons. Four deans and 17 NUS and 17 IE lecturers assisted in leading the record number of 110 participants from 8 faculties in 1985. NUS senior faculty participation greatly increased in 1986 with 4 deans and 28 senior faculty members leading the workshops for 77 participants from all the 8 faculties. IE reduced its faculty participation to 9, concentrated on the main lectures and its facilitating role in the 2 1/2 day seminar.

IE lecturers collaborated with the NUS senior faculty members in giving more in-depth treatment during discussions in the different disciplines. The NUS Centre for Educational Technology and the Computing Centre undertook the media and computing presentations with the assistance of IE.

The developmental format of induction encouraged a great sense of collegiality among the participants as they learned together and discussed their mutual teaching problems with members of the same faculty in workshop sessions.

The seminar location was also changed. It was held at a more conducive conference site - the Institute of Systems Science (ISS) building with excellent audio visual and computing facilities. Refreshment and lunch were provided to generate further discussion beyond the faculty - based workshops.

Evaluation of the 1985 and 1986 Seminars

According to the 1985 and 1986 evaluation returns about the seminars (about 97% returns each year), the participants rated highly the seminar as a whole. They were appreciative of the approach, the choice of content materials and activities (See Items 1,2,3 & 6 of Content in Fig. 2). The participants, however, appeared to be more demanding in their evaluation of the presentation of the various topics in 1986. Though the presenters remained almost unchanged, the rating for three of the four items under presentation was lower in 1986 (Refer to Items 1 - 4 under presentation).

The workshop sessions were very favourably evaluated as the participants strongly agreed or agreed that there was stimulating discussion among themselves (Item 1 of Participation: 87.8 % in 1985 and 94.7 % in 1986). As the quality of discussion improved, more participants felt that the time allocated for discussion was not quite sufficient in 1986 (Item 2 of Participation: 90% in 1985 as compared to 72% in 1986). The correlation between the two items was very apparent - more time would be required for more stimulating discussions. For both years, 77.5 % of the participants strongly agreed or agreed that they enjoyed the seminar. They perceived the seminar as being well organized (Item 1 under the Seminar : 94.6% in 1985 and 90.7% in 1986). It was useful for understanding the problems of colleagues and in making useful contacts. Most of the participants evaluated highly the conducive environment at the ISS Building.

Changing Attitudes and Behaviours Towards Teaching Improvement

Based on the response of the participants in 1985 and 1986, it appeared that the change of teaching approach and attempts in meeting the needs of individual and faculty members were effective in bringing about a change in attitude and behaviour among the participants. Many of the new faculty

Figure 2

Comparative Results of the Evaluation Questionnaire of the
NUS Teaching Methodology Seminar 1985 and 1986

(Percentage of returns on a 5-point rating scale agreeing (4) or strongly agreeing (5) with statements regarding content, presentation, participation and the seminar as a whole.)

| | 1985 | 1986 |
|--|------|------|
| <u>Content</u> | | |
| 1 The approach of the seminar was suitable | 60.9 | 84 |
| 2 The topics selected were relevant and useful | 63.6 | 82.7 |
| 3 The seminar provided me with new information on teaching | 48.7 | 73.6 |
| 4 The seminar taught me new teaching skills or techniques | 40.4 | 58.7 |
| 5 The content of the seminar was adequately covered | 53 | 56.4 |
| 6 The activities used were appropriate and interesting | 50.1 | 76 |
| <u>The Presentation</u> | | |
| 1 The presenters were well-prepared and organized | 89.2 | 73.4 |
| 2 The delivery was clear and easy to understand | 89.7 | 82.6 |
| 3 The presentations were interesting and stimulating | 73 | 78 |
| 4 The presentations met my expectations | 65.9 | 57.4 |
| <u>Participation</u> | | |
| 1 There was stimulating discussion among us | 87.8 | 94.7 |
| 2 There was sufficient time for interaction | 90 | 72 |
| 3 The questions raised were adequately answered | 66.3 | 64 |
| 4 I enjoyed the seminar | 77.5 | 77.4 |
| <u>The Seminar</u> | | |
| 1 The seminar as a whole was well organized | 94.6 | 90.7 |
| 2 The seminar provided me with useful contact with my colleagues | 78 | 78.7 |
| 3 The seminar helps me to understand the problems of my colleagues | 88 | 77 |
| 4 The duration of the seminar was just right | 74.1 | 62.7 |
| 5 The seminar was held at an appropriate time | 71.9 | 72 |
| 6 The seminar was held in a conducive environment | 99.1 | 93.3 |
| Overall rating of the seminar as excellent or good | 79 | 79.3 |

members were effective in bringing about a change in attitude and behaviour among the participants. Many of the new faculty members came to the seminars reluctantly but went away reporting that they not only enjoyed and appreciated the teaching methodology courses, developed more contacts and collegial relationship, they also became more committed to using good teaching techniques, media and technology.

The developmental approach for staff development was found to be more suitable for highly intelligent adult learners who brought to the training situation a great deal of experience in teaching and learning. Using the approach enabled the faculty members to develop from where they were and taking into consideration their strengths and weaknesses, as well as the expectations and demands of the varying contexts. With the support and guidance of the senior members of staff, it was not surprising that the participants of the Teaching Methodology seminars became more positive towards formal developmental efforts. The deficiency approach though more precise in stating instructional objectives did not appeal to the newly appointed faculty members. Perhaps, for the first time in their education they were treated as deficient in a number of areas. This has resulted in rather negative feelings about the teaching methodology courses.

As NUS recruits new faculty members every year, the practice of exposing them to good teaching techniques becomes a regular feature of the initial staff development scheme. Heads of departments have accepted the Teaching Methodology Seminar as a routine requirement for their young and newly appointed staff and supported it by committing more senior staff members to lead in the workshop sessions.

Other Teaching Improvement Efforts

NUS faculty members in recent years have been encouraged to videotape their lectures and tutorials and to use the end-of-course assessment for self evaluation. They can also borrow video tapes on teaching methods produced by other universities from the Centre for Educational Technology and the Central Library. More advanced teaching methodology courses are also organized for senior NUS faculty members on a faculty and departmental basis.

In addition, each faculty is compiling notes on teaching techniques and in selecting relevant materials, articles and books on effective teaching and learning for distribution to staff and students in 1987. The Law Faculty already has a set of materials on study methods for students.

Since the establishment of the Computing Centre, every faculty member has access to a computer for preparing materials for teaching and for research. Regular computer literacy courses are organized for faculty members. They are encouraged to commu-

nicate with each other via information networks on campus or even with colleagues overseas using the BINET system.

Concerns and Issues on Teaching Improvement

Throughout all the 6 years, those committed to staff development and are actively involved in the Teaching Methodology seminars as organizers, instructors, facilitators or resource persons are constantly confronted with several issues related to staff needs and ways to improve teaching. The main issues are expressed in the following questions:

1. Do highly intelligent and highly qualified faculty members require educational courses to improve their teaching? What is the best approach to bring about effective teaching among these faculty members ?
2. Does improved teaching produce better educated and more professional graduates?
3. Is there evidence that alternative media and modern technology has been used with a view to improving the quality of teaching?

A number of concerns and issues surfaced in the planning and workshop sessions of the Teaching Methodology Seminar. The views of the NUS administrators and faculty members deeply involved in all the teaching improvement efforts as planners, resource persons or participants were sought in a series of interviews. Their views provided the first level of concerns about university teaching. In addition, a purposive sample of five medical faculty members (including 1 dental lecturer), 1 university administrator, and 1 educational technologist were interviewed to probe into their perceptions and experience about NUS teaching improvement efforts. These concerns provided the additional level of concerns for triangulation and confirmation. Their views and concerns generated deeper insights into the various teaching improvement efforts at the university. All the concerns can be classified into 5 categories. Whenever the different stakeholders expressed conflicting concerns, these emerged as issues that can be expressed under three distinct themes: the effectiveness, worthwhileness and efficiency of teaching improvement efforts.

Concerns About Teaching

Category 1: Effectiveness of formal teaching improvement efforts

- 1.1. Who can best help me in my teaching? Myself? My senior colleagues (most of whom are my former lecturers), or some 'independant educationist'?

- 1.2 Where can I seek help should I encounter some difficulties in teaching ? e.g. what are the objectives of the professional programme and how the the courses and postings are fitted together in the entire programme ? how to fit my lecture into the entire course, or how can I match my tutorial with the lectures, laboratory work and clinical sessions? how to assess my students and how do we ensure that all the instructors teach the same things and assess the same way ?
- 1.3 Is student assessment of my teaching at the end of a course a true and fair measure of my teaching ability?
- 1.4 How can we know that money spent on teaching improve - ment is really cost effective ? Should more money be spent on equipment and facilities or on personnel ?
- 1.5 How can we ensure that there is adequate and systematic follow - up of the Teaching Methodology seminars so that the lecturers will apply what they have learned ?

Category 2 : Worthwhileness of teaching improvement efforts

- 2.1 What is more worthwhile and deserving of more attention - my teaching or the coming professional examinations ? my clinical work ? or my research and publication?
- 2.2 Who should get more attention? My clients/patients? Or my students?
- 2.3 What is more important - content or methodology ? When most of our students are very bright and can learn very well despite our teaching ?
- 2.4 Is my teaching performance going to affect my confirmation or promotion? Will equal weightage be given to teaching as research by the department and the university administration ?
- 2.5 Should one seek teaching improvement for its intrinsic value ?

Category 3 : Difference between professional education programmes and discipline-oriented programmes, teaching pre-clinical and clinical courses.

- 3.1 Why should discipline - based teaching require media when we believe that our students should deal with

concepts and principles at a high level of abstraction ?

- 3.2 How can we be more 'human' and 'professional' in our teaching as medical education consists of apprentice and modelling processes ?
- 3.3 How can we best impress upon our younger colleagues the importance of lifelong education in a profession - nurturing future medical educators ?

Category 4 : Continuing education as the key to professional growth and staff development

- 4.1 How can I best nurture the students who would eventually become leaders of Singapore's medical education in 10 - 15 years' time ?
- 4.2 How can we help our younger colleagues to help themselves in improving teaching by observation of good teaching, self-study and further training?
- 4.3 Is faculty - based staff development the best solution to continuing teaching improvement ?
- 4.4 How can we ensure that all the deans and faculties will give due emphasis to teaching improvement ?

Category 5 : Use of all resources (human and material) to help improve teaching and learning

- 5.1 Will the use of media improve my teaching if I don't want to be gimmicky and engage my students in higher level of conceptualization ?
- 5.2 How can I persuade my colleagues to use video self confrontation (i.e. video recording one's own teaching behaviour according to some systematic guidelines), and other media materials to make their teaching more effective and lively?
- 5.3. How can we convince the heads of department that the effective use of media and video recording would help improve teaching and that they should set aside a budget for media materials (e.g. slides, transparencies, films, audio and video tapes) for teaching purposes ?
- 5.4 Should I hard sell media, my department (CET) might be inundated with innumerable requests that the existing staff could not cope with ?
- 5.5 Who are the best people to provide staff development

at different levels of teaching improvement efforts ?

Emergent Themes Derived From The Concerns And Issues

From the concerns and issues that were expressed in the questions recorded, three distinct themes emerged. They were clearly seen in the recurring patterns of teaching improvement practices in the National University of Singapore in general and the Medical Faculty in particular. These practices and the pedagogical beliefs associated with them will be discussed under the following three themes :

1. The effectiveness of formal and informal teaching improvement efforts in staff development
2. The worthwhileness of teaching improvement to the individuals and the professional education
3. The efficacy of using media and technological resources in improving teaching and learning

Effectiveness of Teaching Improvement Efforts

A participant of the 1984 Teaching Methodology seminar said: "I found the 3-day seminar quite useful because I have no formal training in teaching...the interaction with colleagues was also useful. But, within 3 days, it's hard to expect great change or improvement...If we had been given reading materials before hand, we could have discussed in greater depth. Basically, I'm happy with the course, it's an improvement over nothing at all. We are expected to perform right away because of the assumption that whosoever joins the university has the ability to teach, and this is not necessarily true."

In this case, the young lecturer's felt need for some formal training in teaching was met to some extent with initial instructional development. Hence his expression of satisfaction with the Teaching Methodology Seminar. His view was shared by the dental faculty member and many other newly appointed colleagues. But the dental faculty member felt that "only a small portion of the course was directly relevant to clinical work."

The young medical faculty member rightly commented that the time of training was too short to bring about immediate change. He therefore suggested follow-up. There is no university - wide plans for teaching improvement follow-ups. However, individual departments and faculties are encouraged to organize second level instructional development. In the case of the pre-clinical department which the young faculty member belongs, it gives emphasis to instructional development for faculties and every member of the department has been exposed to first or second level training. The department has also revised its curriculum. As a result, the young faculty member has

benefitted from the help, advice and interaction with senior faculty members.

Contrary to the young faculty member, a senior non clinical professor was dissatisfied with the teaching methodology seminars for two reasons. "Firstly, they are not meeting the felt needs of the medical participants. Secondly, they are not addressing the more critical issues of medical education. Students want to know what are the objectives of medical education as ours is an apprentice-based system, teaching is not uniform. It depends on who's your mentor...and our younger faculty members have this kind of concern. I've made several suggestions regarding curriculum review, but nothing seems to be happening. I believe the Medical Faculty should first set up a curriculum review committee and develop a curriculum with clear objectives, and see how the theory and practicals come together, and why a theory paper or a practical exam is given?"

The interviewee was concerned with the relevance and worthwhileness of teaching methodology courses. He felt that the urgent need was a new conceptualization of the medical education and clearer statement of objectives. This is to ensure that all faculty members would have a common basis for teaching and assessment of learning.

In the professor's opinion, a teaching methodology course should be part of a one week induction programme for new medical lecturers. During the week, the new lecturers should be introduced to the faculty, and be briefed regarding the objectives of the medical programme, procedures for booking rooms and facilities as well as training in the basics of teaching. This is to orientate the new lecturers so that they would acquire an overall perspective within the context, teaching being one aspect.

Two other senior medical faculty members also emphasized the uniqueness of medical education as a professional education. It has two distinct phases - pre-clinical and clinical - that demand different treatments. Pre-clinical teaching consists mainly of large group teaching and tutorials. Clinical teaching is usually limited to small groups though there are different mentors in different postings, the emphasis is on the end - product. The Medical Faculty has spelt out what a trained doctor should be, the necessary kinds of behaviour, knowledge and skills and commitment to certain codes of ethics.

Both professors believed in the continual development of the lecturers and that the best form is self-directed. One of them cautioned that in instructional development, there should be a balance between educational principles and medical content. "While it's important to give the newly appointed lecturers some basic teaching methodology; however, senior faculty members must be involved in the discussion and in setting examples. This will bring about much more effective teaching improvement." They implied a balanced treatment of content and methodology and

pointed out the importance of providing the younger faculty members with good models to emulate.

Teaching improvement efforts did not profit the younger faculty members only. The clinical professor said he himself benefitted from the comments of young faculty members who sat in his lectures. "One of them commented on my bad slides and showed me a better way of taking photographs..The teaching methodology courses also enable me to discuss with my younger colleagues the importance of imparting to the students not just skills but a certain quality and style of thinking - be analytical, logical and very thorough - show originality in diagnosis and problem solving." The clinical professor believed that besides the basic level of teaching skills, "one must show care and concern, enthusiasm, you know, some degree of infectiousness in one's teaching."

The other non - clinical professor has shown great interest in medical education and teaching all along. He was not only involved in the planning of the teaching methodology courses at university and departmental levels but also acquired a formal degree in medical education from the University of New South Wales in Australia.

The university administrator expressed his conviction in university - wide first level training - the teaching methodology seminars. He believed that they were effective in exposing the new lecturers to the kinds of teaching expected. He emphasized, however, that staff development should take place at different levels: university-wide induction, faculty or departmental based staff training and course revision. He felt that the concerted efforts of the administration and the senior faculty members had brought about some changes in the quality of university teaching.

To ensure effectiveness, different faculties have been encouraged to produce their own materials to improve teaching and student learning. All university lecturers have also been encouraged to use video recording to analyse their lectures and refine them.

Worthwhileness of Teaching Improvement Efforts

One of the most debatable issues is the worthwhileness of protracted formal teaching improvement efforts. University lecturers are not sure about the weightage given to teaching as compared to research and publication. Many of them believe that spending too much time on improving teaching is not worthwhile. For the medical faculty members, they have the added problem of dividing time between patients and students in addition to keeping up-to-date in their own areas of specialization. However, some faculty members believe in teaching improvement for its intrinsic value and persist in activities and reading that will enhance their teaching.

In recent years, university administrators, heads of departments, and newly appointed lecturers have become more positive towards most of the formal teaching improvement arrangements. Medical professors like other faculty members from many of the professional programmes and disciplines placed great emphasis on continuing efforts to update themselves. Besides knowledge and skill, a great deal of emphasis is made on the ethic code and correct behaviour. Hence, the emphasis on balanced treatment between teaching methodology (skill), and content (knowledge) and affective behaviour (attitude). The human touch is emphasized and medical faculty members are expected to teach mainly by example. They are expected to induct the students into the profession by distinct professional behaviours and quality of thought.

One clinical professor said, "Most of our students are very bright...about one-third of them can learn despite our teaching. To the brightest group, we should subtly stimulate them and be an example to them. Some of them will probably become leaders of the medical profession in 10 to 15 years' time. To the middle group, we should help them to ensure that they know what is expected of them. Some of them may also blossom and join the first group. The last group, they are bright but do the minimum. We want to make sure they don't drop out or behave not like a doctor."

The clinical professor believes in the gradual process of nurturing medical leaders. This is beyond the scope of formal teaching improvement efforts. Nonetheless, it is the concerted effort of the professionals in the building up of a community of committed and dedicated medical doctors. Continuing education undertaken by the medical doctor is the key to professional growth. It could be self-initiated or organized by the departments concerned.

Examples of teaching as the above may not be the direct result of teaching improvement efforts. They however reflect certain standards of teaching that are considered appropriate for medical education.

Many a times, the participants strongly expressed their concerns regarding the consistency of maintaining standard, a professional code of ethics, and the quality of a medical education end-product. They expressed concerns regarding types of examination and the rationales for using them.

The worthwhileness of teaching improvement efforts has been increasingly recognized. At the Centre for Educational Technology (CET), requests for media materials production and video recording have greatly multiplied. More and faculty members are making use of the available consultation and production services not only at CET but also at the Computing Centre.

The Efficacy of Media and Modern Technology in Improving Teaching

The use of all resources, human and material, to help improve teaching and learning is generally recognized. In recent years, faculty members from most departments have used a greater variety of instructional techniques and media. Slides and video recordings have become very popular with the Medical Faculty, for example. Computers are not only being more and more effectively used by all faculties for word processing, they are used for database management and desk top publishing. Faculty members need not learn programming languages to create software. They can use available application software to produce overhead transparencies and storyboards for large screen projection to enhance their lectures.

"The requests are coming in very fast. I don't want to hard sell media, otherwise my department of 10 staff may be innundated with requests that can't be coped," said the educational technologist.

The Centre for Educational Technology has produced a number of case studies on videotapes for the Medical Faculty and other faculties and departments to complement their teaching. Many faculty members have also gone to the CET to produce their own overhead transparencies, or take their own slides and photographs to illustrate their teaching.

Some departments have set aside special budgets for media. Others like the Medical Faculty has its own video recorders and photographic units to produce slides for teaching or learning purposes. Some departments have made good use of the media facilities available on campus or in the department but others have yet to be convinced about media use. But all departments are linked up with the University's mainframe and have access to computing facilities and communication even with other campuses overseas through the BINET system. However, there is no available data on the frequency of media and computing use.

DISCUSSION

From the study, it is interesting to note that the changing attitude of faculty members towards teaching improvement efforts was not uniform. The newly appointed faculty members, particularly those from faculties teaching professional courses, were more inclined to feel the need for some form of training in teaching. In the case of the medical and dental faculties, the need for teaching methodology was more strongly felt among the non clinical faculty members than the clinical faculty members.

This is understandable as non clinical faculty members are more involved in mass lectures and tutorials than clinical faculty members. The clinical faculty members discussed more medical and surgical problems rather than teaching problems among themselves.

The more senior faculty members were more concerned with the curriculum and assessment. They felt strongly that some curricula should be reviewed and revised. They also felt strongly about instituting more reliable and fairer systems of assessment across departments and within the same discipline. Most of them were also concerned with the passing - on process. The Medical Faculty, in particular, has prepared a statement of the medical education by-product according to standard behaviours and a code of ethics.

It is also interesting to note that newly appointed faculty members were more interested in getting the basics of large and small group teaching. Depending on the nature of work, clinical faculty members use slides a great deal to illustrate medical and dental problems. More experienced faculty members have requested for video recording and media materials to enhance their teaching than the newer faculty members.

CONCLUSION

This study has attempted to look into the concerns, issues, and trends related to the teaching improvement efforts at the National University of Singapore from 1981 to 1986. Special attention was given to the Medical Faculty which has more experience in faculty continuing education and in nurturing professionals according to specific high standards of behaviour and codes of ethics.

From the general survey and interviews, the University has undergone changes in its teaching improvement programme in order to meet with the felt needs of the young and new faculty members and take advantage of the availability of resources, both human and material. Teaching improvement is generally carried out at different levels: university-wide, faculty and department - based. To effect greater change among the new faculty members, the developmental approach of teaching improvement has replaced the deficiency approach. More senior faculty members were involved in the developmental process in 1985 and 1986. They joined force with the Institute of Education in conducting the annual university-wide Teaching Methodology Seminars and in guiding the new faculty members in their teaching.

Through the years with increasing evidence of the usefulness of an induction course, new and young faculty members have in general accepted and, to some extent, valued formal

assistance given in teaching improvement. Senior Medical Faculty members believe that improved teaching may not necessarily bring about more professional graduates. Their concern and personal example in nurturing the right behaviours according to the existing ethical code have greater impact upon the new faculty members.

There is evidence of greater use of media and modern technology, for example, in video recording and computing to bring about better teaching and learning. Though not all faculty members use media and technology, there is a general heightening of interest in media and computing use. This is largely due to its availability and easy accessibility on campus.

Teaching improvement attempts at the National University of Singapore have passed the pioneering stage when many approaches and methods had been tried. The time has come for all concerned to consolidate their efforts in providing appropriate information and skills to initiate the new faculty members into university teaching and to nurture them through departmental efforts and activities.

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