The Development of Approaches to Curriculum Planning to Meet Academic and Professional Objectives

The importance of developing a curriculum which satisfies the broad objectives of professional education has been recognized widely. The balance between enhancing scholarship and developing vocational skills, the importance of relevant evaluation of the curriculum, students and teachers and the place of research in current professional education are all matters worthy of consideration by those responsible for professional education. This paper reflects upon the historic attitudes to education and traces the changes in approach which have been necessary to ensure the provision of appropriate learning experiences for students seeking a professional education today.

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The number of professional people in our society has grown dramatically in recent times and today, an increasing number of students expect professional education to prepare them for their work in the community. Because the needs of society and of professions themselves change with time, it is important that those who are responsible for planning education programmes in tertiary institutions be aware of the need for constant reappraisal and curriculum modification to ensure that appropriate educational objectives are being met. In fact, in the last decade or so, most tertiary institutions have engaged in a thoughtful review of their educational programmes, establishing new goals and revealing new attitudes.

The definition of objectives which embrace the total needs of educating professional people has been necessary to keep in step with the demands made upon them. Current views of curriculum planning are concerned with matching the preparation of professionals with the challenges they will face in practice, and this reflects acknowledgement of the need for careful analysis of relevant and appropriate professional attributes.

Kliebard (1985) has suggested that thinking about the curriculum is as old as thinking about education. In the past, curriculum planning was somewhat dependent upon the views of higher education held by the University responsible for it and by the community in general. But the expectations of the educated person before this century differed from some of those held now and attitudes assumed then may no longer be entirely relevant to education in the present day. For this reason, as a preface to a discussion of educational programmes for the modern professional person, it is helpful to examine past approaches to advanced learning and to identify the origin of some of the thoughts which still persist.

In reviewing factors which have influenced higher education over the years, the focus must be on Universities. But of course, any discussion of curriculum planning for professional people today must refer to activities carried out in all Institutions of higher learning, whether they be Universities or Colleges of Advanced Education.

The Development of Attitudes to Advanced Education

In mediaeval times, a knowledge of Latin and of authoritative texts conferred on the scholar not only a sign of literacy, but also a passport to the priesthood and some other prestigious occupations. Beard et al (1974) have suggested that from this fact developed the idea that certain kinds of subject matter alone had the virtue of producing the 'educated man', or of training the mind to deal with the tasks presented.

Mediaeval European Universities (especially in Italy) were places of professional study, preparing students for the professions of theology, law and medicine and it is interesting to note that some opinions occasionally voiced today, echo Bacon's cry of yesteryear that the great colleges of Europe appeared to be dedicated to professions and not left free to arts and sciences at large (Carr-Saunders 1964). The professional education of that era, however, was of quite a different type to that which evolved later and was characterized by the 'leisured status' of many of those who undertook it.

Before the nineteenth century, higher education in England was concentrated in the Universities of Oxford and Cambridge, which were concerned above all with imparting instruction in the classical languages. It was from this background that the twin notions of clas-

sical education and of tutorial supervision came to exercise a strong influence on thinking about higher education in England. Beard *et al* (1974) believes that it was in this particular tradition that the American approach to 'liberal' education was developed, in which the aim was to provide a general awakening and training of the intellectual faculties and the provision of a broad based culture.

In the nineteenth century, two major views were advocated: education in the liberal arts for the gentleman who did not need to earn a living, and a utilitarian education which stressed the value of mastering the environment and advancing technological progress (Beard *et al* 1974). Elliot (1972) has suggested that at the end of the nineteenth century, the ideology of liberal education, public service and professionalism was based on the older tradition of gentlemanly leisure and the established professions and emphasized the value of personal service and motivation, while expressing a dislike for competition, advertising or profit. This ideology was elaborated in opposition to the growth of industrialism and commercialism which was occurring at this time and from which developed a second trend in education. The changes in knowledge, economic and social organization resulting from the Industrial Revolution created opportunities for occupations to meet specialized demands. Concurrently, Universities began to show more concern about employment opportunities for their graduates (Elliot 1972) and the importance of placing some emphasis on the preparation for a vocation was realized. The latter trend has developed steadily throughout the twentieth century.

In the early part of this century, much of the higher education was based on the classics in conformity with the social ideas existing at the time. But today, where higher education aims to produce individuals expert in various specialities, to maintain and develop the economy and to advance knowledge in an increasing number of fields, an individual may be considered educated although he has no knowledge of the classics (Beard *et al* 1974). Jones (1976) has pointed out that, although the Universities had previously shown little interest directly in vocational instruction, they (and other tertiary institutions like them) are nowadays central to the development of professional ideas and are largely dominated by the demands of professional education.

As 'leisured status' has become a less important characteristic of the professional and been replaced by specific expertise and competence, vocational content has been introduced more fully into the general educational experience.

However, as often happens with a change in emphasis and the development of new approaches, there were those who felt that, by mid-century, the swing had been too great in one direction. The dangers of moving too closely to a totally vocational education were expounded by Henderson in 1969. He pointed to the utilitarian nature of the age and asserted that the many practical men in the world had 'pure learning' on the defensive. In calling for creativity and the fostering of scholarship, Henderson queried whether the modern institute for higher education was departing too dramatically from its important task of teaching pure culture. He raised the question of whether this long established function was in danger of becoming diluted and lost in the enormous and growing activities of professional instruction and research. He pleaded for the preservation of the ideals of 'learning for its own sake' which, he insisted, gave a sense of proportion to life, developed the humane and fundamental values in man and restored the truth that the mere mechanics of living could not be the 'sole vocation of the human spirit'.

Accepting that institutes of higher learning must provide professional training as well as all kinds of specialist knowledge to satisfy the demands of a modern community, Henderson emphasized that this must not be regarded as their sole purpose. While agreeing that Universities cannot escape the duty of furnishing the majority of students with an education to some extent specifically related to their future careers, Henderson stressed that an institute of higher learning would fail in its essential service if it did not contrive to combine its vocational functions with the provision of a broad humanistic culture and a suitably tough intellectual discipline.

Henderson's sentiments have been shared by many who have attempted to define the goals of advanced education today. The technology of the twentieth century has represented a new and vital element of culture and as such, it is a challenge which has been accepted by most institutes of higher learning. While acknowledging that there is nothing inferior culturally about the study of technological subjects, the importance of other aspects in education has been recognized and stressed. The concept of education as being necessarily dependent on the understanding of classical studies has been replaced by other philosophies related to current community demands.

Planning a Curriculum

While at one time the notion of higher education as a prerequisite for life was considered sufficient, more commonly today, higher education is considered a qualification of a learned profession. Indeed, Hughes *et al* (1973) point out that an increasing number of young people now expect that a tertiary institution will prepare them for the profession they wish to follow.

Education has been defined by Saylor *et al* (1981) as an orderly, deliberate and sustained effort to transmit or develop knowledge, concepts, skills, attitudes or habits. They suggest that if education is perceived as an orderly and deliberate effort, some plan is needed to guide that effort and the term 'curriculum' generally refers to this plan. However, as Saylor *et al* (1981), have pointed out, the way in

which a curriculum is defined reflects value judgements regarding the nature of education and it is not surprising to find that the concept of a curriculum is interpreted in many different ways. Miller and Seller (1985) suggest that definitions of curriculum fall across a broad spectrum, from a statement of a course of study to a more broadly defined outline in which everything that occurs under the auspices of the study is included. Falling somewhere between the two is the concept that a curriculum describes the interaction between student and teacher and is designed to achieve specific educational goals. The latter approach, assert Miller and Seller (1985), offers a plan for providing sets of learning opportunities to achieve broad goals and related specific objectives for an identifiable population. Such a concept of a curriculum is particularly practical in the development of educational perspectives for the professional person.

Inglis (1985) considers that while a curriculum may be regarded as the official register of a society's knowledge, it is also dynamic: it illustrates not only what is supposed to be known, but also what should be done with that knowledge. That is, the curriculum is an 'intentional' structure, with its own erratic rhythms caused by the rate of change and the discarding processes. This dynamic feature is particulary important for all curriculum planners to appreciate. As Kliebard (1985) has pointed out, whatever the historical period or particular setting, the question of what to teach involves a selection from a vast array of knowledge and belief. Since it is impossible to teach everything, that selection reflects in part some sense of what is most worthwhile in relation to what can be reasonably accomplished in the time available. The listing of priorities and the acceptance that some components of a programme may have to be deleted as new material is added are important concepts for curriculum planners. There is no one way to handle planning. It is an extraordinarily complex

matter; it requires time, dedication, good will, cooperation and intelligence.

The problems facing many educators today include what to teach, how to organize it, how to engender continuity, integration and coherence in the curriculum, how to discern what is being learnt and how to write educational materials which people can and will use (McCutcheon 1985).

Gagne and Briggs (1979) advocate a 'system' approach to the design of education which is based on logical, systematic thinking. Such a model incorporates twelve steps, some of which include a needs analysis, an analysis of goals and objectives, an analysis of alternative ways to meet expressed needs, the design of educational components, an analysis of resources and constraints, the selection or development of materials and the design of appropriate student performance assessments. Each of these steps is particularly relevant to the preparation of a physiotherapy curriculum.

Towle (1954) has argued that the function of a profession in society and the demands implicit in its practice determine the objectives of education for that profession. The responsibilities which its practitioners must assume designate the level of knowledge and skill to be attained. They also determine the character of the educational experience which students must have to provide competent service and to contribute to the ongoing development of the profession in a changing order. While it is outside the scope of this paper to argue the merits of individual objectives, the need for goals which meet professional demands for more broadly based knowledge or for knowledge from several fields must be emphasized.

Most tertiary Institutions would agree that education for any profession should be directed towards significant objectives, including those relating to professional competence, scholarly concern, understanding of society and ethical behaviour. Further, in defining objectives for professional education,

the importance of developing personal attributes must not be overlooked. The professional person requires a capacity to inspire confidence and to work co-operatively as a member of a team, and an ability to communicate effectively, both verbally and in writing. Provision for the fostering of these qualities must be made in the curriculum. However, while it may be easy to recommend that a desirable programme should represent a balance between demands for general education, general professional education and specialized professional education, satisfying such demands can be a difficult process requiring care and skill.

While a characteristic of professions is that they are learned, they are also practised and the relationship of practice to other aspects of education is a subject frequently debated. The accusation that a school may focus so sharply on 'vocational ends', that its graduates emerge as superb technicians but poor scientists and poor citizens (Anderson 1962) is not uncommon. Indeed, as Henderson (1969) pointed out years ago, those concerned with planning professional education must be aware of the dangers of highly specialized instruction, the limitation of mere technical training, the increasing overemphasis on memory work and the highlighting of examinable factual information.

The effects of rapid changes in our society and in technological advances have been emphasized many times. The importance of monitoring those changes and of modifying curricula to match evolving professional needs is recognized by most academics. While maintaining the *status quo* is easier and safer than coping with change, the challenge must be accepted. As McCutcheon (1985) has warned, planning for change requires energy and time, which are often scarce commodities. It also requires a certain level of commitment and security before risks are taken in implementing change. In 1966, Mountford outlined clearly the importance of preparing students to cope

with change. He highlighted the need to demonstrate to the student that a grasp of underlying principles was more valuable than the accumulation of information or the acquisition of skills and techniques. The need to encourage flexibility, ingenuity and versatility in students forms part of that changing emphasis. Mountford (1966) emphasized the fact that a mere presentation of either vocational techniques or factual information was inadequate if curriculum planning was to incorporate preparation for adaptation to continuous change.

Programme Implementation to Meet Professional Educational Objectives

The achievement of the goals which are now relevant to the preparation of a thinking professional person requires careful planning in terms of content, method of teaching and evaluation. The simultaneous development of vocational skills, professional attitudes and academic abilities depends as much on the methods and approaches used as on the content of the course offered. In curriculum planning to meet all of these demands, it is not feasible to attempt to achieve each goal separately. Rather, they can be nurtured concurrently by a judicious selection and combination of content, teaching and examination methods.

Queries relating to the relative amounts of time to be spent on theoretical background and practical or clinical application are often heard. But, as Hughes et al (1973) assert, the question of balancing theory and practice is not merely one of the length of time spent on each, or on the total length of time of professional education. It is also a matter of selecting certain kinds of practical training to be learned in certain ways and specific settings and of selecting particular parts of scientific knowledge, social knowledge and ethics to be inculcated in the professional students.

It is no longer appropriate to separate the teaching of specific skills from the inculcation of desirable attitudes towards learning and thinking. If students are to be taught to question, to seek substantiation, to define problems and to solve them logically and with originality and ingenuity, all subject matter must be presented in a way that will encourage them to do so. This is not difficult, but requires as the first step the acceptance of such a principle. For example, classes designed primarily to teach technical skills can be organized in such a way that they will also develop some of the additional attributes considered desirable. Contrasting points of view regarding techniques or their application may be presented for discussion by staff or by prepared students; questions forcing students to relate a technique to its theoretical basis may be posed; reading assignments demanding substantiation for the use or application of a particular technique may be set, while opportunities for exposing students' assumptions may be made by the teacher.

Similarly, class work based on theoretical background can be supplemented by the students' preparation of literature reviews (in which emphasis is placed on critical appraisal and not just collection of information) and the presentation of papers to the group. Practice in the application of professional skills may be supplemented by role-playing sessions and discussions, to provide opportunities for group interactions and the development of cooperation and understanding between colleagues.

Evaluation

While the careful definition of objectives and the implementation of a comprehensive teaching policy are important, curriculum planning will not be successful if it does not also include the consideration of appropriate methods of evaluation to match the defined teaching goals.

Although one of the avowed aims of teachers in higher education is that their students should learn to think and work independently and that students' methods of study should be made more effective, Beard (1972) has claimed that evidence suggests the aim has never been fully realized. If it were indeed the central aim of many teachers, courses and methods of assessment would give more credit to the capacity for independent study and thinking than they do now. Teaching methods which have derived primarily from an apprenticeship system (such as once occurred in medicine) tend to suffer from a legacy of didactic teaching aimed at inculcating essential knowledge and skills. If independence of thought is as highly valued as it should be, examination methods must reflect that objective.

It might be valid to query what attempt is made to help students to organize information systematically and to develop the skills of communication, when so much recent emphasis has been placed on the use of multiple choice questions and the reduction in requirements for essays. Care must be taken that where objectives such as the development of critical thinking have been listed, the methods used by teachers do encourage such a facility, and the examinations used to evaluate the students' success in reaching that goal are relevant to the particular ability.

When considering evaluation of students within a professional programme, the concept of accountability to the profession must be considered. Indeed, McCormick and James (1983) claim that the concept of educational evaluation is often so interwoven with the concept of accountability that the two are difficult to distinguish. They point out however, that although evaluation and accountability are closely interrelated, while accountability usually presupposes evaluation, the latter does not necessarily imply accountability. Those planning the evaluation process of a curriculum for a professional programme must surely bear

their responsibilities for accountability in mind. Fortunately, the system approach for curriculum design, as proposed by Gagne and Briggs (1979) has the advantage that it provides a basis for an accountability system. Evaluation of the programme itself is important in terms of curriculum development. Early approaches to evaluation tended to concentrate on the measurement of outcome (Tamir 1985). However, it was realized that one of the most crucial elements in determining the success of curriculum innovations was the quality of the process of education itself. This has been reflected in an increasing emphasis on evaluation of the teacher and the teaching processes, rather than solely on the performance of the students.

In stressing the importance of preparing professional students in the way of analysis and to cope with the uncertainties ahead, the importance of the quality of teachers must not be underestimated. Any suggestion for modifications to a curriculum which includes attention to objectives, content, method and evaluation must be accompanied by an appraisal of the skills of the teachers in implementing such changes. This suggests a careful scrutiny of policies regarding staff recruitment as well as ongoing teacher education.

It is highly unlikely that one style of teaching or one view of curriculum priorities will ever gain universal approval but as Barner (1982) points out, this does not mean that any teaching approach is as good as any other. Barner (1982) observes that good teachers reflect carefully on their plans and actions using a principled basis for the selection of teaching approaches and supporting materials. Their work is deliberate rather than habitual or directed by fashion. Such teachers vary their educational and organizational style according to the demands of the programme and the relevance to students' learning. The availability of specific programmes for teacher development

is essential if the teaching component of tertiary education is to be enhanced.

Research as Part of Professional Education

The importance of critical thinking and the ability to make balanced judgements on the basis of evidence presented are qualities stressed by most authors today when discussing the preparation of students for a profession. There would be few who could debate the value of involvement in research in achieving this goal. In fact, there are many who consider that the advancement of learning demands research, ingrained as an attitude of mind in all, but developed as a special skill in some (Soffen 1967). For both a staff member and a student, a research approach to the solution of a problem enables the professional member to learn through experience and to convey what he learns. A knowledge of research and disciplined thinking help in the development of intelligent interpretation. Sound research proceeds from and contributes to sound professional practice (Soffen 1967), and it is surely important that a professional person be able to contribute to the growth of a subject, as well as being able to discuss or write about it.

Critical thinking in students may certainly be developed by providing opportunities for them to state their views (either in writing or in discussion) and then to learn through criticisms from teachers or fellow students, the fault in their arguments. It may also be encouraged by requiring students to evaluate experimental reports and data collected by other researchers. But it should be most successfully developed when students themselves are involved in research activities.

The need for perception in recognizing and defining a problem suitable for a research study and the opportunities for original thought in planning a research programme or interpreting results will help to cultivate these qualities in the student more quickly than

in other ways. In addition, involvement in research will provide the basis for many other attributes which should be encouraged in professional students. Research affords the chance for such experiences as seeking expert advice and conferring with other disciplines, critically analysing the literature and accepting or rejecting its information, assessing the relative importance of various aspects of a project and adapting a programme in the light of experience gained during its progress, learning to work with meticulous accuracy and attention to detail, recording information systematically and scientifically, analysing and interpreting facts and demonstrating the significance of experimental data, as well as reporting with conciseness and precision. In addition, it both relies upon and helps to encourage such personal attributes as objectivity, originality, patience and perseverance, all of which are valuable assets in the professional person today.

Well chosen research projects can lead to a more profound study of a problem than is allowed by the sometimes superficial, broad coverage provided by other forms of education. Such an approach can also provide a student with excitement in searching for relevant information and evidence, or satisfaction in exploring a problem, deciding what questions should be answered and setting up experiments accordingly.

Conclusions

Since advanced study was first undertaken, the attitudes of society and of Universities towards higher learning have changed slowly. To a few, the concept of higher education consists only of the 'enlargement of the mind', which comes about through contact with scholarly companions and a study of the classics, a view which has persisted since the last century when a University education catered mainly for the 'leisured' classes. Others prescribe to a different attitude, in which em-

phasis is placed more on the acquisition of a 'body of knowledge' and practical skills than in provoking students to thinking deeply about the subject.

But on the whole, the views that higher learning should be based on classical studies, purely vocational skills or a combination of liberal arts and vocational skills have been superseded by the recognition that professional people today need to be prepared in a wide variety of ways.

The sharp dichotomy which has prevailed in the past between 'liberal' and 'professional' studies is no longer consistent with the facts of contemporary academic life. Rather, the character and quality of education must be determined by the specific purpose of each unit included and by its relationship to the total learning experience. Undergraduates must not acquire mere skills. They must also be taught to think systematically, to understand basic theoretical principles, to explore the wider aspects of their discipline and to enquire scientifically and impartially into its relevant problems. Education must be marked not only by a depth of competence and a breadth of perspective, but also with the provision of opportunities for independent thinking

and the expression of individual ideas. The transitoriness of a large part of the informational content has forced institutes of higher learning to a clearer appreciation that their goal is not necessarily to produce a specific professional, but rather to produce a mind trained for that profession. The importance of planning a curriculum in which the content, teaching methods and evaluation are designed to achieve this objective cannot be overstressed. It behoves those of us who are educators to ensure that our programmes fully satisfy the comprehensive objectives of professional education which are now considered to be most appropriate.

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