Adult Education and Health Professions Training: A Paradox?

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Although health professions training, by definition, is a subset of adult education, the two fields are disparate in terms of their theoretical foundations and their practice. In this paper, adult education is used as a framework for the analysis of teaching in the health professions. Implications are discussed in terms of theory-building in both areas, research, and practice.

Par définition, la formation des professionnels de la santé relève de l'éducation des adultes. Pourtant, ces deux domaines sont différents des points de vue des fondements théoriques et de la pratique. Cet article considère l'éducation des adultes comme cadre de référence en vue d'analyser l'enseignement offert aux professionnels de la santé L'objectif en est de souligner les implications du modèle andragogique des points de vue de la recherche, de l'élaboration des théories et de la pratique dans le domaine de la formation des professionnels de la santé.

A curious dichotomy exists between adult education and higher education. Researchers and practitioners belong to separate professional organizations, read different journals, and are associated with different departments or programs at the university level. Faculty at universities and colleges tend not to apply principles of adult learning in their classrooms (Lam, 1985). However, adult education has been defined as the process "whereby persons whose major social roles are characteristic of adult status undertake systematic and sustained learning activities for the purpose of bringing about changes in knowledge, attitudes, values or skills" (Darkenwald & Merriam, 1982, p. 9). By this definition, higher education is one area of adult education, along with continuing studies, professional development, and individual self-directed activities undertaken by the adult learner. In this paper, the integration of one component of higher education, health professions training, with adult education will be discussed.

The Context: Training, Teaching, or Educating?

A philosophy of education contributes to the development of a "personal theory of teaching" for all teachers. Blumberg (1983) described the progress through the levels of craft, skill, and art of teaching. The craft level of teaching implies knowledge of subject matter and the ability to deliver curriculum adequately. The skills level of teaching includes the craft requisites and extends it to incorporate a variety of teaching methods and knowledge of students' needs. Ascending to the level of art involves incorporating both craft and skill levels and adds to them a notion of social awareness, taking into account not only the dominant social milieu in which the imparted information will be acted upon, but also the social variants which affect the manner in which the learner will deal with the information. The journey toward teaching as art requires personal philosophizing about self as teacher as well as a philosophical and sociological consideration of that which is taught.

A useful analogy for the analysis of health education as adult education exists in the education of professional teachers. This process resembles a training model: students obtain discipline-based knowledge (e.g., mathematics, French, sciences, languages) elsewhere and then within the teacher training program are provided with a set of generic skills and techniques that make them eligible for certification as teachers. Given that we shape individuals of varying backgrounds with requisite abilities, and given that the skills which they subsequently demonstrate in practice are specific to imparting knowledge *per se*, rather than imparting a specific type of knowledge, the notion of teacher *training* is enhanced.

Teachers, however, are not only disseminators of information but also social agents who teach both facts and the ways in which acting on factual information produces social and cultural impact. Rosen (1968) states that philosophy "must also be the cutting edge of progress — the blade against which a culture tries itself. Philosophy is both the shaped and the shaper . . . a culture can change only to the degree that people in it bring about change" (p. 5). There is an active, practical side to philosophizing about the role of teacher in any social enterprise, independent of the forum in which teaching skills are practiced.

The concern in this paper is the ways in which the application of adult education principles in the health professions carry the potential for paradox. In most areas of higher education, the possession of professional skills is seen to qualify the possessor to transmit these skills to others through an educational experience. As opposed to the training for the profession of educating (with expertise often secondary to teaching skills), teaching in higher education is viewed as a skill that practitioners latently possess. Expert knowledge of an area of specialization, however, in no way presumes knowledge, expert or otherwise, of instructional delivery issues.

This issue has not been at the forefront of concern amongst health professionals, but as our brief sojourn into philosophy has taught us, "If a culture does not move ahead, if it does not change, it must soon grow static and eventually die" (Rosen, 1968, p. 5). The leading edge in any pursuit requires a holistic approach

that not only integrates and synthesizes current practice needs, but anticipates future needs and directions.

This does not imply that health professions training has not paid attention to the process of education; as will be discussed, considerable valuable work has been done. But a raising of the level of awareness of the theoretical foundations of adult education in the training of health professions must be viewed in a critical, rational manner.

The Framework: Adult Education

Adult education is a field in which there has been little theory-building. Courtney (1986) argues that this is because adult education is a "species of moral and social intervention rather than a science" (p. 162); Cross (1981) suggests that there is a lack of desire or perceived need for theory in the field. Brookfield (1986), among others, points out the difficulties inherent in searching for a general theory of adult learning. In addition, it must be remembered that adult education encompasses a wide variety of teaching and learning situations, that the field is relatively new in terms of established graduate programs, and that many of the existing programs are training practitioners rather than researchers in the field. While a single, unified theory of teaching and learning for adults may not be possible, significant writing of a theoretical nature has been done. This work will be described briefly, as a framework for the discussion of clinical teaching in the health professions.

Andragogy, defined by Knowles (1980) as the art and science of helping adults learn, is the best known "theory" of adult education. The theory, or model, as it is sometimes termed, describes four basic assumptions concerning adult learners:

1. As a person matures, his or her self-concept moves from one of a dependent personality toward one of a self-directed human being;
2. An adult accumulates a growing reservoir of experience, a resource for learning;
3. The readiness of an adult to learn is closely related to the developmental tasks of his or her social role; and
4. There is a change in time perspective as individuals mature, from one of future application of knowledge to immediacy of application; thus an adult is more problem-centered than subject-centered in learning. (Knowles, 1980, pp. 44-45).

Knowles' original sharp distinction between andragogy and pedagogy was criticized and it has since been modified and described as a continuum (Knowles, 1980), leading some authors to conclude that it is no longer a theory which is uniquely descriptive of adult learning (Cross, 1981) or even a theory at all (Jarvis, 1983). Nevertheless, it is Knowles' work upon which much of the practice of adult education is now based and upon which research in the field is currently being conducted.

Based on a comprehensive and interesting review of the literature, Cross (1981) presents a "conceptual model" which she calls the Characteristics of

Adults as Learners (CAL) model. It is intended to be a foundation for theory-building. Two types of variables are described: personal characteristics, which are seen to be on a continuum, and situational characteristics, which are dichotomous. Personal characteristics include physiological and aging variables, sociocultural dimensions (life phases), and psychological characteristics, including developmental stages. Situational characteristics focus on variables that are unique to adult learners, such as part-time versus full-time learning and voluntary versus compulsory learning.

Other writings which are sometimes described as theoretical foundations of adult education include the philosophical perspectives of Mezirow (1981), Illich (1973) and Freire (1972). In addition adult educators have drawn on the work of such theorists as Dewey (1938) and Rogers (1969) whose primary intent was not to address instruction for adults. Although these writers have contributed to the development of the field, they are not central to the present discussion.

Finally, though not explicitly intended as theory-building, the integrative work of Brundage and MacKeracher (1980) must not be overlooked. Based on a thorough review of the literature, the authors list several principles of adult learning and discuss their practical implications for the adult educator. Those principles which are particularly relevant to clinical instruction in the health professions are summarized in Table 1.

In summary, although the theoretical foundations of adult education are still being built, there is a substantial amount of literature on adults as learners, and there are several beginnings to theoretical formulations. If a theory is defined as a set of principles which explain phenomena and the interrelationships among phenomena, then a theory of adult learning should also be relevant to the various aspects of higher education. One of those aspects will now be described.

Clinical Teaching in the Health Professions

Clinical teaching is defined as instruction which occurs in a health-related environment (nursing, physiotherapy, dentistry, medicine) (Cranton, 1983). Students observe and participate in activities which are intended to provide opportunities for the application of facts, principles, and theories to the practice of the profession. Clinical teaching differs from classroom teaching in that it occurs in a setting which is not designed for instruction: staff and patients or clients are engaged in activities which have priority over the teaching and learning process.

Specific aspects of clinical teaching have been investigated in detail, though little integrative or interdisciplinary work has been done. The use of objectives has been found to facilitate learning (Miller, 1976; Stritter, 1975) as have instructional strategies such as computer-assisted instruction (Brath & Vockell, 1986), pre-clinical conferences (DiRienzo, 1983), and group work (Lammert, 1981). In an investigation of students' perceptions of effective clinical teaching, Stritter et al. (1975) concluded that student participation, student-centered activities, applied problem-solving, and an opportunity to practice skills were perceived as important

Table 1
Adult Learning Principles
(Summarized and Adapted from Brundage and MacKeracher, 1980)

1. Adults learn best when they are involved in developing learning objectives for themselves which are congruent with their current and idealized self-concept.
2. Adults have already developed organized ways of focusing on, taking in and processing information. These are referred to as cognitive style.
3. Activities which support and encourage organization and integration should be a part of all adult learning processes.
4. The teacher of adults should be able to model behavior which is relevant to the role of the learner.
5. Adults do not learn when over-stimulated or when experiencing extreme stress or anxiety.
6. Adults who enter into learning activities are often well-motivated and do not require further stimulation in the form of pressure or demands from the instructor or other learners.
7. Adults have developed well-organized strategies for defending against threat, for covering emotional reactions. These may mask stress or anxiety but never completely alleviate it.
8. Adult learning focuses largely on transforming meanings, values, strategies and skills derived from past experience. This process requires more energy and more time than new learning.
9. All adults do not necessarily possess all the meanings, values, strategies and skills required for new learning activities. Acquisition of the missing components must be regarded as an essential activity in all learning experiences.
10. Adult learning focuses on the problems of the immediate present. Learning content should be derived from the learner's needs.
11. Success and satisfaction become reinforcers for learning and motives for further learning.
12. A group of adult learners will be heterogeneous in terms of learning and cognitive styles and mental abilities.
13. Adult learners and their teachers can share the responsibility for such teaching-related activities as providing input, creating learning experiences, directing activity, and deciding on directions and objectives.
14. Adult learners have not all reached the levels of cognitive development predicted.
15. Adults tend to enter new experiences in dependent models of behavior and to change in response to their own definition of themselves and in response to environmental expectations and reinforcements.

characteristics. In the area of evaluation of students' performance, a large but fragmented and discipline-specific literature exists. Researchers have attempted to develop and validate instruments for the observation of performance in specific settings (cf. Loomis, 1985).

In one descriptive, interdisciplinary study, Cranton (1987) collected information from students and instructors in physiotherapy, dentistry, and nursing in order to examine common issues in clinical teaching. The areas explored were based on the components of an instructional design model: objectives or other orienting stimuli; sequencing of tasks; instructional strategies; and evaluation of and feedback about learner performance. Of these, sequencing and evaluation were found to be the areas of primary concern for both instructors and students. Due to the unpredictable nature of the clinical environment, each instructor tended to develop specific strategies for sequencing instruction based on the speciality procedures of a particular ward, the phases of a treatment procedure, the severity or complexity of illness of available patients, and the "progress" of individual students. In relation to feedback and evaluation, students and instructors consistently raised the issues of providing feedback in the presence of a patient or staff member, and the evaluation of student performance in terms of patient safety and interpersonal skills with patients. Concerns about evaluating students' affective behavior were consistently expressed. The majority of the students interviewed and observed did not feel that they had an accurate perception of their clinical progress.

Recently, particularly in medical education, work in clinical teaching has utilized the advances made in cognitive psychology to address the processes of diagnosis and problem solving. This research has, to some extent, addressed the need for a theoretical foundation in the area; however, it is necessarily focused on a limited component of clinical instruction.

Two distinctly separate lines of inquiry have been briefly described. In adult education, limited but promising theoretical formulations are underway. In health education, specifically clinical teaching, the research remains discipline-based and only partially grounded in theory. Since health profession training is a subset of adult education, it is proposed that both areas would benefit from an integrative analysis.

Clinical Teaching as Adult Education

Andragogy. Throughout his writing, Knowles consistently describes the adult learner as a self-directed individual with a valuable reservoir of past experience and an interest in learning which is relevant to immediate goals. He does admit that not all adults are self-directed at the beginning of a learning experience; however, it is the responsibility of the educator to facilitate self-directed learning.

Knowles (1980) describes clear implications of andragogy for the teacher of adults. Goals, objectives, or the direction which a course will take should be negotiated mutually between instructor and learners. Instructional strategies should be experiential and interactive with the instructor acting as a facilitator and resource person rather than an "expert" or authority figure. And, since one adult

should never pass judgment on another, self-evaluation should be the means for assessing progress.

A dilemma is immediately encountered. In health professions training, an enormous amount of knowledge and number of skills are considered essential to the practice of the profession. The most common complaint of the academic instructor in dentistry or nursing programs is the amount of material which must be "covered" in each course. In the clinical area, instructors have the responsibility of demonstrating and supervising the practice of innumerable skills. There is very little room for mutually negotiated objectives. The argument can be made that the learner made the decision upon entering the program and has consequently agreed to the objectives required by that profession; this view, however, is inconsistent with the andragogy theory. It appears that either the theory is incomplete in that it does not account for this type of adult education or that a basic foundation of health education fails to account for the characteristics of the adult learner.

Examining Knowles' description of instructional strategies and teacher roles, clinical instruction, if not the classroom component of health education, does appear to be accurately represented. In the clinical area, instructors act as professional models and facilitators. They are available when problems arise, and they spend time in post-clinical conferences analyzing and integrating the experiences of the day. The learner is involved in activities which have obvious and immediate relevance.

The area of evaluation of learner performance, however, presents an irreconcilable difference between andragogy and health education. In the health professions, all learners are required to write certification examinations. Consequently, throughout their training, they are evaluated by their instructors on the various components of their professional expertise. In terms of safety and public accountability, it is not reasonable to argue that self-evaluation would be appropriate. Andragogy clearly does not encompass this aspect of adult education.

In another way, though, the idea of self-evaluation is prevalent in all health professions training. One goal of every program is to have the learner acquire self-evaluation skills; this is gradually and carefully done throughout nursing and physiotherapy clinical experiences. Paradoxically, perhaps, instructors even evaluate the extent to which students have acquired self-evaluation skills.

The integration of Knowles' andragogy with clinical teaching is difficult on two points — the mutual responsibility of instructor and learner for the objectives of the learning experiences, and the evaluation procedures required in the certification of health professionals.

CAL. Patricia Cross's (1981) model of adults as learners is quite general and does not have the same detailed implications for instruction as does Knowles' work. The first variable, physiological/aging is not usually relevant for the clinical instructor — the majority of students are in early adulthood; that is not to say that the model is faulty. The second variable, sociocultural/life phases is relevant in health professions training. Learners may be in the "leaving home"

phase (establishing autonomy and identity), "moving into the adult world" (regarding self as adult, building the dream), or the "search for stability" phase (re-examining life structures and commitments, striving for success, setting long-range goals) (Cross, 1981, p. 174). The implication is that the educator should utilize the "readiness" or the "teachable moment" in the life phase. For example, the student who is defining her identity would be ready to learn the professional role assumed by the nurse, and the student who is setting long-range goals may be ready to select a specialization in medicine. Awareness, on the part of the instructor, of the life phases would facilitate learning. The third variable included under personal characteristics, psychological/developmental stages, again has clear implications for clinical teaching. Adults at the higher levels of moral or cognitive development will assume greater responsibility for their own learning and be more independent.

The situational variables described in the CAL model have fewer connections with clinical instruction. Most students are full-time rather than part-time. On the voluntary versus compulsory dichotomy, entrance into the program is voluntary, but following that decision, much of the curriculum is prescribed.

The CAL model is general enough to encompass clinical instruction, but not detailed enough to contribute to the theoretical foundations of the area.

Principles of Adult Learning.

A scrutiny of Brundage and MacKeracher's (1980) principles of adult learning yields some areas in which clinical teaching is described and others where an obvious discrepancy exists. The principles listed in Table 1 will be addressed briefly.

As was mentioned in the discussion of Knowles' work, the learner in the health professions rarely has the opportunity to be involved in developing learning objectives; the program is most often based on a prescribed curriculum. Many of the principles from Brundage and MacKeracher's work deal with specific characteristics of the adult learner: cognitive and learning style, anxiety and stress, motivation, established value systems, and a heterogeneity of previous knowledge and skills. Many of these variables have been addressed extensively in the clinical teaching literature. In medical education, for example, the issue of stress has been examined in detail, both in terms of research on sources of stress and in terms of coping strategies for the learner. Nursing literature has included over the last ten years investigations of learning style with clear implications for both classroom and clinical instruction. Nurse educators have also paid considerable attention to the value systems of their learners since their curriculum includes learning in the affective domain. In general, the clinical instructor is interested in and aware of the characteristics of the adult learner. When the implications of these variables for teaching are discussed by the adult educator, however, discrepancies with clinical teaching again become apparent. Differences in learning style, for example, should be addressed through providing a choice of learning activities; anxiety should be alleviated by matching learning experiences to the

background of the learner; more time needs to be allocated to the process of transformation of values.

Health educators face the constraints of the curriculum, the institution within which they teach, the requirements of the professional association, and the assessments done by the certifying body. Consequently, the time, resources, and facilities required to deal with a variety of learner characteristics are most often not available. This probably does not contradict the validity of the principles describing adult education, but it does indicate that practical constraints need to be allowed for in any theoretical formulation.

Other of the Brundage and MacKeracher principles deal directly with instructional strategies — encouraging integration, modelling, reinforcing success. Once again, considerable attention has been paid to these areas within clinical instruction. Recently, medical educators have concentrated on the integration of theoretical knowledge with clinical skills and have utilized cognitive psychology research in this process. Modelling has been addressed in the nursing education literature, particularly in terms of the learner acquiring the role of the professional. The importance of positive feedback and the reinforcement of success has played a key role in the move to contract learning in, for example, physiotherapy education. As mentioned in the discussion of andragogy, regarding instructional strategies, there is a theoretical congruence between adult education and clinical teaching.

Discussion and Implications

In the introduction to this analysis, the progress through levels of craft, skill, and art of teaching was discussed, and the training model for professional teachers was used as an analogy. It has become clear that a training model is employed in health education and that instructors operate at the "craft" level of the continuum. The educator's role is that of clinician/teacher as opposed to teacher/clinician. However, the philosophical position of Rosen implies that for the health professional, preparedness to teach both facts and persons requires a predictive stance rather than a reactive stance focusing on traditional methods and assumptions that are socially and culturally bound. In an analysis of adult education and instructional design, Geis (1987) concludes:

> The resolution for the adult educator may require a much more subtle description of learner control and of the educator's role. Let me propose that the adult educator is responsible for the clarification of existing criteria and for assisting the learner in understanding and planning to meet those criteria if the overall goal (e.g., becoming a doctor) requires that. (p. 13)

He goes on to suggest that the adult learner develop the skills of the instructional designer, thus providing a link between the "technology of instruction" and "life-long learning." This analysis suggests a change in the description of both the adult learner and of the instructor of adults. The cognitive and affective awareness of the adult learner should become a component of a theory of adult learning, and the role of instructor as learner a component of a theory of instruction.

Two major issues arose in the attempt to describe clinical teaching within the theoretical framework of adult education — objectives determined by persons other than the learner, and the assessment of learner performance by professional certifying bodies. Geis' comment provides some assistance in resolving the first issue. The prescribed objectives of professional training could be viewed as a "given," in the same way that an adult deciding to learn about computers accepts the "given" objective of demonstrating competent performance with the computer. It is then the role of the educator to clarify those objectives and facilitate the learner's attainment of them through mutual planning. The learner's choice of objectives existed during the decision to enter the program. The evaluation is, of course, closely related since it involves assessment of the predetermined objectives. Geis describes the adult educator as assisting the learner to meet the criteria required of the overall goal. To a certain extent, this analysis helps to resolve the differences between health professions training and adult education, but considerable work remains to be done.

If a theory of adult education or a theory of adult learning is a desirable goal, the theory-builders must look beyond the "continuing education" situations and include all adult education. The theoretical frameworks, such as andragogy, in which work is now being done do not allow for description of much of higher education, and particularly not for the aspects of health professions training that have been analyzed here. To elaborate on such frameworks using the approach that Geis has suggested would be a relatively straightforward process. The possibility of built-in prescribed goals could be included, or every learning situation could be viewed as having its own inherent goal; once the learner has decided to enter into that situation, the mutual responsibility for planning is one of working toward that goal. Once this aspect is included in a descriptive theory, the evaluation of performance falls into place; it is simply assessing mastery of the goal.

From the point of view of the health educator, this integrative process may be more complex; it involves the acceptance of health professions training as adult education. In terms of theory building, the health educator must begin with an interdisciplinary approach as opposed to the current separation of nursing education, medical education, dentistry education, and so on. Current theoretical foundations such as those from cognitive psychology, developmental psychology, and instructional design would need to be evaluated as to the degree to which they are interdisciplinary. The principles that remain valid following this analysis should then be examined from the perspective of adult education and, finally, integrated into the theoretical framework of that area.

The building of theory in adult education is in its earliest phases. Considerable research needs to be done in testing various principles and assumptions. The questions to be addressed are virtually too numerous to be listed. Each principle listed in the summary of Brundage and MacKeracher's work, for example, could be stated as a research question. If such questions could be asked within the context of clinical teaching or other components of health education, both theory-testing and discipline integration would be addressed.

The practical implications of this analysis are obviously far-reaching. Professional development for clinical teachers should include an analysis and integration of the foundations of adult education. Curriculum designers in the health professions should consider instructional strategies which are appropriate for the adult learner. The professional associations which set objectives and certification examinations could request and include input from students and alumni. As soon as the health educator is thought of as an adult educator the role changes from that of expert and formal authority to that of model, mentor and facilitator. The same goals can be accomplished with the altered role, most likely in a manner which better meets the needs of the learner and consequently produces a "better" practitioner. In some of the health professions, most notably nursing, such a change appears to be already underway as evidenced by articles on adult education appearing in nursing education journals and the courses.

An integration of health professions training and adult education should lead to a more holistic perspective on both disciplines. The description of the role and characteristics of the learner would be revised, and the instructor would be viewed as a "reflective practitioner," with "practitioner" meaning both health professional and teacher.

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