# The Role of Scholarship in University Teaching

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## Abstract

The primary resource in university teaching is the scholarship of faculty. This discussion paper explores the potential role of scholarship as a teaching resource and the value of a scholarship perspective in instructional development. It is argued that the content, structure and process knowledge inherent in scholarship have the potential to contribute to effective teaching and learning, but only when all three forms of expert knowledge are explicitly taught. This teaching task does not flow naturally from scholarship, but requires reflection and careful structuring on the part of the scholar-teacher. It is also argued that a scholarship perspective constitutes an effective context from which to engage a broader spectrum of faculty in communicating about teaching and learning. The purpose of this paper is to stimulate discussion on how a scholarship-based instructional development context might achieve learning outcomes that more closely approximate the ideal of apprenticeship in a discipline.

## Résumé

La ressource principale de l'activité d'enseignement universitaire est l'érudition que possède le corps professoral. Cet article explore le rôle potentiel de l'érudition en tant que ressource pour l'activité d'enseignement, et la valeur d'une perspective basée sur l'acquisition du savoir pour le développement de la

pédagogie universitaire. Il est proposé que le contenu, la structure et le processus inhérent à l'acquisition du savoir ou de l'érudition, peuvent potentiellement contribuer à l'enseignement et à l'apprentissage des étudiants, mais seulement lorsque les trois composantes du savoir sont enseignées explicitement. Cette perspective sur la tâche d'enseignement ne découle pas naturellement de l'acquisition du savoir même, mais requiert de la part du professeur-érudit un travail de réflexion et d'intégration. Il est aussi proposé qu'une perspective fondée sur le mode d'acquisition du savoir peut servir de contexte favorable pour inciter un plus grand nombre de professeurs à s'intéresser aux questions touchant l'enseignement et l'apprentissage. L'objectif de cet article est de s'interroger sur comment un enseignement basé sur le processus d'acquisition du savoir peut produire des résultats sur l'apprentissage des étudiants qui se rapproche le plus fidèlement possible de l'idéal d'apprentissage dans une discipline donnée.

Scholars in the university setting share a dual trust: to contribute to the development of their disciplines through research and scholarly writing, and to maintain the integrity of their disciplines through teaching. The primary resource underlying these research and teaching responsibilities is the scholarship of faculty. When viewed as a resource, scholarship is characterized not merely in terms of attainment, such as one's mastery of an area of knowledge (Good, 1973) or one's list of research publications (Smith, 1991), but in terms of one's ability to use and communicate what one knows (Spees, 1989). This active and dynamic concept of scholarship corresponds more closely to the demands placed on the resources of scholars in the university setting which include not only the scholarship of discovery, but of integration, application and teaching as well (Boyer, 1990). In response to Smith's (1991) recommendation that commonly held notions of scholarship evidenced in the practices of Canadian universities be expanded to place more emphasis on scholarship in teaching, this discussion paper explores the role of scholarship in university teaching.

In the discussion which follows, an argument is presented for the more effective utilization of scholarship in university teaching. This argument has emerged from the critical exploration of several questions: To what extent does university teaching reflect the scholarship of faculty? What is the potential of scholarship as a primary teaching resource? How can an emphasis on the more effective utilization of scholarship in university teaching facilitate instructional development? The findings of this exploration are presented to stimulate discussion of the role of scholarship in teaching and instructional development at the university level.

The pursuit of this theme has been motivated by the attitudes towards instructional development services held by a broad cross-section of university faculty. At best, these scholars view with indifference the efforts of faculty members whose area of study and research is to improve the effectiveness of university teaching. At worst, they are viewed with cynicism. Based on my own field experience, professors who remain skeptical of instructional development services maintain two major sets of beliefs about instructional development services. These perceptions will surely make instructional developers cringe; but, as with most misconceptions, there is a kernel of truth in each. One set of beliefs which causes faculty to devalue instructional development services has to do with the perception that advice to improve teaching effectiveness is constituted of general teaching "skills" which can be superimposed on any body of knowledge. Such approaches do exist: lists emphasizing the "how to" in areas of classroom practice, such as construction of course outlines and lectures, voice projection, lecture style, rapport with students and evaluation of student learning (e.g., Frederick, 1986). A survey of instructional development activities in Canadian universities from 1976 to 1986 suggests that addressing basic instructional skills such as these had been a major focus in instructional development (Donald, 1986). While advice on basic instructional skills can certainly enhance teaching and learning, faculty who remain skeptical of instructional development efforts contend that an emphasis on basic skills does not acknowledge the value of scholarship in university teaching and trivializes the teaching of the complex knowledge of their disciplines. The notion of a set of teaching skills is also at variance with the experience of faculty who have observed that there are many ways in which colleagues achieve effective teaching. This intuitive view is supported by research which indicates that multiple and varied approaches to teaching at the university level have been successful (McKeachie, 1990; Sheffield, 1974). For these reasons, the "basic instructional skills" approach to instructional development lacks credibility among many professors. Despite a shift away from this approach by instructional developers (Donald, 1986; Sullivan, 1983), faculty perceptions of the basic skills approach (and their reasons for not participating) persist.

A second set of beliefs pertains to a more substantive approach to instructional development in which the principles of human learning are applied in university-level teaching practice. Resources based on this approach (e.g., McKeachie, 1978) are well founded in educational research and have made substantial contributions to improving teaching and learning at the university level. For some professors, however, the implementation of the "human learning

theory" approach to instructional development is problematic. The primary factor contributing to this difficulty is that the expertise of most teaching faculty lies outside the study of human learning. To engage in this approach, professors must firstly make an effort to explore the principles of human learning. Secondly, they must contextualize these general principles in the teaching of their specific disciplines. These two requirements are perceived as challenging the often overtaxed time resources of university professors; and consequently, participation in this approach is limited.

This analysis, offered from the perspective of faculty who do not value instructional development services, is an attempt to explain why neither the basic instructional skills approach nor the human learning theory approach has provided a context in which effective and broad-based communication about teaching and learning can take place among some professors. Not all professors who decline to utilize instructional development services are poor teachers. But if, as Konrad (1983) reported, conventional instructional development activities are more likely to be utilized by good teachers who wish to improve their teaching than by those who really need to improve, then it is important to seek an instructional development context which is more appropriate to the audience we would most like to reach. From a practical perspective, many members of this audience perceive their fundamental teaching resource to be their scholarship. When the primary emphasis in improving teaching is not embedded in that scholarship, instructional development efforts lose credibility. From a research perspective, there is a growing emphasis on the central importance of discipline knowledge in designing effective instruction (Donald, 1986; 1990; Glaser, 1984; Shulman, 1987). Deep knowledge of a discipline profoundly influences a teacher's ability to represent knowledge, structure learning and evaluate student performance (Shulman, 1987). When research developments and faculty perceptions are taken into account, an examination of the potential of a scholarship context for improving university teaching and learning seems warranted.

## The Reflection of Scholarship in Teaching Practice

One response of faculty to both the basic instructional skills and human learning theory approaches to developing teaching effectiveness has been to argue that teaching based principally on a depth of scholarship in intensive, discipline-based programs of study produces effective learning. This "immersion" approach draws directly on the primary resource of the scholar-teacher, and values the role of scholarship in teaching. Consequently, it is a widely embraced teaching strategy at the university level.

When we examine what takes place in university classrooms however, the implementation of this approach to teaching breaks down in many instances. The literature reviewed by Dunkin and Barnes (1986) characterizes learning at the university level as dominated by the acquisition of content knowledge. This phenomenon reveals itself in instructional materials (Prosser, 1979; Simon, 1980), classroom behaviour (Barnes, 1983), and testing (Quellmalz, 1985; Woods, 1987). Furthermore, teaching strategies and learning tasks widely used in university classrooms foster intellectual passivity because they focus more on presenting knowledge, rather than constructing, analyzing, synthesizing or evaluating knowledge (Dunkin & Barnes, 1986). Many students in this setting do not share in a true immersion experience.

As the report of the Holmes Group (1986) points out, the immersion approach is also a simplistic approach to university teaching. Trusting in immersion in a discipline to produce effective learning across a broad range of students also trivializes the teaching and learning process, albeit in a different way than the basic instructional skills approach. The presentation of what is known in a discipline, however well organized, is not sufficient for effective learning in that discipline. For many students, the structure and process implicit in the accumulated knowledge of a discipline will not be inferred from learned material (Collins, Brown & Newman, 1989; Segal, Chipman & Glaser, 1985). From a student's perspective, such an immersion has been blind to many aspects of discipline knowledge.

## Finding a Better Resource – Need Fit

How then, can effective teaching and learning be achieved at the university level? The limitations of the three approaches characterized above offer a starting point for alternative approaches. The basic instructional skills and human learning theory approaches have helped some professors; but, from the perspectives of others, they have failed to recognize the important role of discipline knowledge in university teaching. Thus, many of the professors who view their knowledge base as their primary teaching resource have felt alienated. The blind immersion approach in its turn, however, fails to acknowledge the needs of students and the demands of a dynamic teaching and learning process (i.e., the principles of human learning).

One solution lies in recognizing certain realities about the resources underlying education at the university level and the demands which effective discipline learning place on these resources. An effective strategy should draw on and respect the primary resource of professors – their accumulated knowledge

in a discipline – thereby establishing common ground for thinking and talking about the teaching and learning process. The limitation of these resources lies in the fact that for most faculty, this considerable expertise lies outside of any theory of learning. These experts are nevertheless charged with communicating a highly complex body of knowledge to students who have just begun to form such knowledge structures and require specific kinds of support in doing so. From a discipline expert's viewpoint, this teaching and learning task can be characterized by the large gaps in knowledge between teacher and student and by the necessity to appeal to the inherent characteristics of discipline knowledge to bridge these gaps.

## The Potential of Scholarship as a Teaching Resource

It is possible to work within these constraints to improve university level teaching and learning. A scholarship-based approach can meet the needs of university-level learners, but only when the knowledge inherent in scholarship is systematically and explicitly made available for student learning. The framework for scholarship-based instruction elaborated in the following paragraphs is intended to maximize the benefit to students of interaction with scholar-teachers and to allow professors to draw more effectively on their scholarship in their teaching roles. Furthermore, it will be argued that the explicit teaching of all components of expert knowledge in a discipline mirror the requirements for effective pedagogy.

One of the hallmarks of the teaching task is that expert teachers interact with novice students to share the knowledge of a particular discipline. A specific teaching task is defined by gaps in knowledge between experts and novices which go beyond the mere quantity of knowledge they possess. There are also qualitative differences between experts and novices in the ways knowledge is organized and used to reason and solve problems (Reimann & Chi, 1988). The knowledge inherent in these quantitative and qualitative differences is essential for competent performance in a discipline. These differences determine not only the kinds of knowledge that need to be acquired by novice learners, but also indicate what some of the challenges to effective communication in learning and teaching will be.

Consequently, effective teaching based on deep discipline knowledge demands a clearly articulated notion of what constitutes knowledge in a discipline. Perkins and Simmons (1988) have characterized understanding in a discipline as having four frames: content, problem-solving, epistemic and inquiry. The content frame is characterized by domain-specific substantive knowledge.

The problem-solving frame includes domain-specific and domain-general problem-solving strategies and knowledge associated with their use. The epistemic frame is characterized by a knowledge of the norms which guide valid induction and the evaluation of evidence and theory in a discipline. The inquiry frame consists of the knowledge used to criticize, elaborate or challenge discipline knowledge. The existence and interaction of these frames of knowledge are inherent in expert performance in a discipline. To nurture a similar competence in the students of a discipline, knowledge from all four frames must be explicitly taught.

Similarly, but from a more pragmatic perspective, Rohwer and Thomas (1989) reviewed the literature characterizing expert and novice knowledge with a view to establishing what kinds of knowledge should be pursued in academic courses to develop proficiency in a discipline. This literature characterizes proficiency as requiring highly structured content knowledge and the means to retrieve, acquire and manipulate that knowledge. Based on a comparative analysis of expert and novice knowledge structures, Rohwer and Thomas identified the following constituents of expert knowledge for explicit instruction in academic courses: content knowledge organized into concepts and principles which form a coherent whole; process knowledge required to use the knowledge of a discipline, with specific attention to the conditions under which content and process knowledge applies; and strategy knowledge necessary to plan, monitor and direct learning and knowledge application. These kinds of knowledge were inherent in expert performance but often lacking in novice performance.

Taken together, these two conceptualizations of what constitutes the essential knowledge of a discipline define the demands placed on expert knowledge in the teaching situation: to pursue explicitly not only the accumulated information of a discipline, but how that information is organized into a dynamic whole; the processes by which that information can be used, elaborated and critically examined; and the conditions under which both process and content knowledge apply. These demands call for a more comprehensive utilization of the knowledge of the scholar-teacher in the university classroom to facilitate the explicit teaching of a discipline's content, process and structure. This scholarship-based approach differs from the blind immersion approach commonly practiced in university teaching in its explicit and systematic teaching of each of the components of discipline knowledge.

## Expert Knowledge and Effective Pedagogy

It is one thing to appeal to an analysis of the nature of expertise to determine what ought to be taught in academic courses, but quite another to argue that the systematic utilization of this same knowledge base meets the demands for effective pedagogy. There is, however, ample evidence to support the argument that teaching from a holistic scholarship perspective parallels the requirements for effective teaching and learning. In general, the research literature on learning indicates that, just as the three components of content, structure and process contribute to expert performance, they also interact to contribute to effective learning (Tennyson and Cocchiarella, 1986). While content knowledge is essential to competence in a discipline, content knowledge learned as accumulated information often remains "inert:" it cannot be retrieved when it is required for use (Whitehead, 1929; Bereiter & Scardamalia, 1985). When information is learned together with its relationship to previous knowledge and the conditions under which it is relevant, both learning (Bransford, Sherwood, Vye & Rieser, 1986) and future access to that knowledge are facilitated (Anderson, 1985; Glaser, 1984; Simon, 1980). Without such organization, learned information frequently cannot be retrieved unless an explicit direction to facilitate the student in recognizing relevant knowledge is provided (Brown, Bransford, Ferrara & Campione, 1983; Simon & Hayes, 1976). Learners with such an organizational structure, whether self-developed or provided, are more likely to notice inconsistencies or gaps in given information (Markman, 1985); judge the difficulty of tasks more appropriately (Bransford *et al.*, 1982); and recognize when they have mastered a learning task (Feuerstein, Rand, Hoffman & Miller, 1980). This research on how people become effective learners and users of knowledge illustrates the importance of the structural knowledge of a discipline.

The interaction of content and structure in the learning and retrieval process is further influenced by the development of problem-solving and critical thinking abilities in the context of learning in a discipline. Practising the process skills which are essential to the effective applying, synthesizing and evaluating of discipline knowledge generates new content knowledge and elaborates knowledge organization (Stewart & Hafner, 1991). Applying knowledge in the course of these tasks improves memory and retrieval capacities for both content (Anderson, 1985; Mayer, 1983) and process knowledge (Glaser, 1984; Sternberg, 1981). The explicit teaching of the content, structure and process knowledge of a discipline produces a synergistic effect which enhances effective learning.

The importance of all three components of expert knowledge in the learning process is also supported by research in cognitive development. Recent reviews of research suggest that the content, structure and process knowledge of a discipline are developed simultaneously and are interdependent. In particular, the ability to organize and process information has been observed to develop as that information is accumulated. Furthermore, new knowledge which is organized to relate to previous knowledge is more likely to be processed at higher levels of thinking (Bransford *et al.*, 1986; Glaser, 1984). These findings are reflected in Sternberg's (1985) theoretical model of intelligence in which knowledge acquisition and use are represented as parts of a single system. Sternberg (1987) further emphasizes that process skills alone are not sufficient for effective thinking, but that appropriate organization of relevant knowledge, effective management of the thinking and learning process, and motivation are also required. These research findings support the view that an emphasis on the interaction of the three components of expert knowledge in the learning process is a strong teaching strategy.

It would appear that what began as a view of effective teaching and learning based on the inherent nature of scholarship is consistent with research literature on effective learning. The parallels which have been drawn between the principles of effective learning and the effects of explicitly teaching the content, structure and process knowledge of a discipline are essential to the educational credibility of a scholarship-based approach to instructional development. There is, however, also a practical value in this parallelism in that a knowledge of this research literature is not necessary for the effective implementation of the scholarship-based approach. Professors whose expertise lies outside of the study of human learning can achieve effective pedagogy if they explicitly teach not only the content knowledge, but also the structure and process knowledge of their disciplines. The content, structure and process components identified in expert performance in a discipline also contribute to effective learning in that discipline.

## A Scholarship Perspective in Instructional Development

There is no question that the dimensions of knowledge inherent in scholarship are implicit in our classroom teaching. The information transmitted has been derived through rigorous process and is part of a dynamic whole. The explicit focus, however, is often on information (Dunkin & Barnes, 1986). Even though the organization and processes of the discipline are implicit in its presentation, it is often the information in isolation that students perceive (Cyert, 1980;

Norman, Gentner & Stevens, 1976; Mevarech & Werner, 1985). Implicit structure and process are realized by as few as one quarter of our students (Arons, 1979).

It is clear from the frustrations shared by faculty and students that the status-quo has not been effective in maximizing the benefit of scholar-teachers to students. Many students would benefit from a systematic effort to make each of the three components of expert knowledge more explicit in discipline teaching. While this strategy is simple in principle, its implementation presents a significant challenge. In large part, the difficulty lies in achieving a productive level of explicitness. To make structure and process knowledge more readily available for student learning, they must be taught as explicitly as content knowledge (i.e., by spending class time discussing these aspects of discipline knowledge and making the assessment of this knowledge part of course evaluations). Using this teaching strategy, the acquisition of content knowledge is not an end in itself, but becomes part of a larger strategy to develop independent learning and thinking in a discipline.

The requirement for explicitness in facilitating the development of structure and process knowledge implies, firstly, that we can describe, discuss and provide feedback on these aspects of expert knowledge (McKeachie, 1988). Secondly, it requires that students are provided with the kinds of learning experiences and challenges which will demand the utilization of the kinds of knowledge we wish to develop (Collins *et al.*, 1989; Rohwer & Thomas, 1989). These implications represent a significant challenge to the scholar-teacher, but one that is firmly grounded in his or her own scholarship. A scholarship-based approach to instructional development demands reflection on the nature of one's own discipline knowledge and on ways to make that knowledge accessible to students in the context of academic courses. From this perspective, university teaching and learning become fundamental issues of scholarship in a discipline, and not a problem to be solved solely by prescription from without.

That is not to say, however, that effective teaching is a natural extension of scholarship and that external instructional development services are therefore irrelevant. The challenge to reflect on and articulate the knowledge inherent in one's scholarship, even within the context of a single academic course, is often a difficult task (Donald, 1986) and requires a mature level of scholarship and dialogue within a discipline. Expert knowledge is characterized not only by the relative volume of knowledge attained, but by the degree to which that knowledge is integrated, condensed and learned to the point of automaticity (Anderson, 1985). Consequently, the explicit articulation of the essential

content, structure and process knowledge inherent in expert knowledge is frequently difficult because such knowledge is not easily retrieved. The role of instructional developers in this process is, firstly, to work with discipline experts to facilitate the articulation of the knowledge structures, the relationships between knowledge structures and the intellectual skills they wish their students to acquire in each course. Secondly, instructional developers can assist professors in designing and testing instructional strategies which facilitate the acquisition of these various forms of knowledge (Amundsen, Donald & Cowan, 1992; Amundsen, Gryspeerdt & Moxness, 1993; Donald, 1986).

This approach to instructional development is not only pedagogically sound, but addresses some of the criticisms voiced by professors who have not, in the past, valued instructional development services. By embedding instructional development in the scholarship of faculty, the context from which instructional development services are delivered shifts in important ways. Firstly, a primary component in the development of effective instruction is the knowledge essential for competence in a discipline. As discipline experts, professors are drawn into the instructional development process based on their deep knowledge in a discipline. Secondly, a scholarship-based approach requires professors to apply the tools of their scholarship in improving the learning outcomes of their students. Early in their careers, professors develop the ability to define problems, plan solutions, experiment and evaluate outcomes with regard to substantive problems in their respective disciplines. These same abilities for inquiry and reflection can be applied in solving the problem of how students can better learn the essential content, structure and process knowledge of a discipline (Amundsen et al., 1992; Fideler, 1991; Taylor & McBride, 1988). The essential attributes of the scholarship-based approach to instructional development relate directly to the personal scholarship of individual faculty members. In so doing, the focus in instructional development practices shifts from the remediation of teaching behaviours to full partnerships with scholar-teachers characterized by their research orientation. Sullivan (1983) considered this progression from "remedial" to "optimizing" levels of instructional development as one which would most benefit student learning.

## Placing The Scholarship Perspective In Context

The purpose of this discussion paper has been to construct an argument to support the pedagogical and practical advantages of instructional development based on the scholarship of faculty. The approach to instructional development proposed here seeks a realistic meeting between student needs and faculty

resources. When viewed from the perspective of human learning theory, the scholarship resource is compatible with student learning needs, but only if scholar-teachers can effectively articulate the content, structure and process knowledge inherent in their scholarship and provide learning experiences which reflect the comprehensive nature of their discipline knowledge. Collins, Brown and Newman (1989) have characterized the systematic externalization and active use of aspects of expert knowledge which often remain implicit in expert performance as providing students with an "apprenticeship" experience. Their notion of apprenticeship captures the spirit of the scholarship-based approach to university teaching and learning developed here. Through such an apprenticeship, students can become competent users, rather than merely tellers, of the knowledge of a discipline.

It has been also argued that in the "real world" of university teaching, an approach to instructional development which values scholarship as a primary teaching resource would be an effective framework in engaging a broader cross-section of faculty in formal instructional development activity. The arguments for either the pedagogical or practical advantages of this approach should not be construed as a reason to forego other levels of instructional development. While it has both pedagogical and practical strengths, the scholarship-based approach is by no means a comprehensive solution. From a pedagogical perspective, the scholarship-based approach is limited in that it does not acknowledge the important role of student's beliefs about themselves as learners or the social and interpersonal dynamic of the teaching and learning process (e.g., McKeachie, Pintrich, Lin & Smith, 1986; Perry & Penner, 1990). From a practical perspective, the opportunities to draw professors into the instructional development process are as varied as the challenges they encounter in their teaching. It is a matter of identifying teaching and learning problems that are important to these professors and facilitating a solution process specific to those problems.

Rather than being offered as the quintessential approach to instructional development, the scholarship-based approach is put forward as an additional strategy to engage scholars in the challenging task of defining the knowledge they wish their students to acquire and designing teaching strategies and learning tasks which facilitate the acquisition of that knowledge. It is proposed not as an end, but as a level of entry into the instructional development process particularly suited to the scholar-teacher. From the perspective of individual professors and students, the effort to utilize the scholarship of faculty more effectively will contribute directly to the improvement of university teaching and learning. From an instructional development point of view, it also has the potential to

create a faculty-driven demand for instructional development support to develop specific teaching strategies and learning tasks suited to the development of competence in a particular discipline. From an institutional perspective, the scholarship-based approach to instructional development unequivocally situates effective teaching as a fundamental issue of scholarship. Following the recommendation of the Smith report (1991) to include teaching, as well as research activities, in the conceptualization of scholarship reflected in the practices of Canadian universities, a scholarship-based approach to instructional development invites faculty to engage in challenging and scholarly thinking on an essential requirement for the growth and development of a discipline: its transmission.

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