

## A SHORT ESSAY ON EDUCATIONAL RESEARCH

### **The Move Away from Purely Objective (sometimes called 'Positivist') to More Subjective (sometimes called 'Interpretivist') Approaches to Educational Research**

Anthony Clarke  
University of British Columbia  
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#### **Practitioner knowledge as 'received knowledge'**

In the early 1900's education was a new and emerging field of study. To gain legitimacy and status within the research community, educationalists sought to imitate the methods and forms of inquiry that had secured the natural scientists their lofty position in the academy. This endeavour, to "travel the same royal road" (Soltis, 1984, p. 6) to success, resulted in educational research being dominated by a paradigmatic orientation that has been variously labelled as positivism (Phillips, 1983), logical empiricism (Harre, 1981), or technical rationality (Sch\_n, 1983). Researchers committed to this perspective assume that: 1) there is a reality that can be discovered, 2) this reality can be reduced to propositional logic, 3) it can be inferred by objective value-free observation, and 4) the character of the observed phenomena is not altered by the data collection methods (Schubert, 1980).

The implications of this perspective in education were significant. A research program was initiated to discover universal laws and axioms that would guide teaching practice (Garman, 1986). This program was based upon linear causal models (Erickson, 1986) which attempted to measure student success in terms of academic achievement gains (Van Manen, 1977). This perspective implied that the knowledge, skills, and competencies required by teachers could be specified in advance (Zeichner, 1987a) of the actual act of teaching and that professional practice could be regarded as merely the application of theory to practice (Connelly and Clandinin, 1986).

Much of the process-product, teacher effectiveness, and teacher competency research traditions in the middle to late 20<sup>th</sup> century are based upon this 'positivist' perspective (Shulman, 1981, 1986b; Boydell, 1986). Consider, for example, the body of literature that stems from process-product research. Researchers with this orientation believe that the phenomena they explore are natural and therefore stable, and that under intensive analysis and experimentation these phenomena yield "scientific generalizations and trends" (Gage, 1980, p. 14). An attempt is made to find relationships between specified teacher behaviours (processes) and student outcomes (products). An example of this is the time-on-task construct which links academic achievement to the time that individual students spend 'on-task'. While the notion of time-on-task is a useful construct (teachers do try to keep students actively engaged at all times in their work), and has intuitive appeal, critics question the theoretical and methodological assumptions upon which this research is based. For example, Erickson (1986) lists three problems: the research proceeds from an inadequate notion of interaction (a one-way causal influence rather than reciprocal interchange of factors within the learning environment), the research is based upon an extremely reductionist view of classroom processes, and the research outcomes are too narrowly defined in terms of achievement scores. Put simply, a scientifically, objective, value-free frame approach to research is unlikely to capture, or explicate, the full complexity of the teaching-learning

environment.

A study by Smyth (1987, cited in Smyth, 1989b) highlights some of these concerns. During a research project to study the nature of student-to-student support in class, the time-on-task construct became the focus for a particular set of classroom observations. One of the teachers was concerned about the level of student muttering in his class. After a period of investigation, during which time the teacher recorded both the students' behaviour and associated 'mutterings,' he discovered that contrary to his initial assumption - that muttering was indicative of off-task behaviour - the muttering was indeed work related. He concluded that the capable students verbalized problems to themselves for clarification and the less able students sought clarification from their neighbours. Thus, the observable behaviour, 'muttering,' was not an indication of off-task behaviour but quite the opposite. The teachers involved "issued a challenge to the widespread view that to be on-task students needed to be silent" (Smyth, 1987, p. 13). This example highlights the deceptiveness of surface appearances when taken as indicators of specific behavioural patterns. What process-product researchers had often taken as 'low inference' indicators (e.g., objective classroom observations) were in reality highly inferential (Erickson, 1986).

### **Implications for teacher education**

The seductive simplicity of readily codified behaviours, which emanated from 'positivist' research of this type, had implications for teacher 'training.' Teacher educators were quick to incorporate the findings from teacher effectiveness, process-product, and teacher competency research into their preparation programs (Boydell, 1986; Shulman, 1986a). As Van Manen (1977) notes, given the nature of the 'knowledge industry' at that time, the enthusiastic application of such theory to practice came as no surprise:

In a culture where the knowledge industry is strongly dominated by an attitude of accountability and human engineering, it is not surprising that the predominant concern of educational practice [had] become an instrumental pre-occupation with techniques, control, and means-ends criteria of efficiency and effectiveness. (p. 209)

Thus, the preparation of beginning teacher was greatly simplified during this period when teaching was viewed as instrumental problem solving made rigorous by the application of scientific theory to practice settings (Boydell, 1986; May & Zimpher, 1986; Schon, 1983). Student-teachers were thought of as technicians who faithfully implemented the results of academic research (Krogh, 1987; Simmons, Sparks, & Colton, 1988; Zeichner & Liston, 1987). As a consequence, teacher education became imbued with a technical, almost scientific, language that was supposedly an accurate representation of classroom practice, for example 'ALT' or Academic Learning Time (Shulman, 1986b; Tabachnick, Popkewitz, & Zeichner; 1979). The notion of the 'teacher as technician' was further enhanced by the positivist assumption that the problems of practice were generalizable across multiple contexts, and as such did not require on-site interpretation or adjustment (Erickson, 1986; Nolan & Huber, 1989; Selman, 1988).

Undoubtedly there exist some generic 'tools of the trade' that have a degree of general applicability in classroom context. Consider, for example, a simple technique such as asking a

question of the whole class before selecting a pupil to respond to the question; the hope being that each pupil will remain attentive in anticipation that he or she might be called upon to answer the question. This elicitation strategy is called 'wait time.' It is likely that most teachers have used this particular strategy at some time in their classrooms. This and other techniques, when judiciously used, can be employed very effectively by classroom teachers. The use of 'techniques' becomes problematic, however, when they become an expected (mandated?) practice, or are used as a blueprint for classroom teaching.

Some studies show that student-teachers value 'techniques' almost to the exclusion of any other component of their teacher preparation (Campbell, Green, & Purvis 1990; Comeaux & Peterson, 1988; Russell, Munby, Spafford, & Johnston, 1988). MacKinnon and Erickson (1988) suggests that an early dependence upon such techniques is indeed a characteristic of early career teachers, particularly when 'survival' is paramount. They propose that basic techniques need to be mastered before students are able, or ready, to consider more substantive educational issues. The challenge for teacher educators is to select an appropriate time to move students beyond a 'what works' approach to classroom practice (Goodman, 1988) to a deeper understanding of what it means to be an educator. For example, Brown (1990) contends that teachers may require three to four years of teaching experience before they might be expected to reflect on their practice in any substantive way.

Closely aligned with a dependence upon techniques is the concern that teachers who have achieved technical competence often remain at that level (Feiman-Nemser, 1983). Evidence of this is readily noted by anyone who has conducted professional development programs for practicing teachers. There is a strong expectation that presenters will provide materials that can be taken back and used unproblematically and immediately in classrooms; that is, some teachers are always looking for quick fixes! Van Manen (1977) submits that this desire for technical instrumentality is rooted in the quest for practical relevancy; a norm which pervades the teaching profession and is characterized by the separation of theory from practice, and where the application of theory to practice is thought of as a one-way street. Such norms as these inhibit systematic inquiry into and reflection upon practice. It may be important then to encourage teachers not only to consider the 'how' and 'what' of their teaching but also the 'why' of their teaching (Wildman & Niles, 1987).

It was in this light that researchers began to question the consequences of teacher education program emphasizing 'technical know-how' to the exclusion of more complex issues related to classroom practice (Krogh, 1987; Richards & Gipe, 1987; Stout, 1989). Van Manen (1977) argues that while 'how' questions are relevant, other questions must be asked to ensure an adequate interpretation of the 'practical.' Other researchers contend that a purely technical approach to teacher education supports the notion that prospective teachers are passive recipients of knowledge and that they play very little part in determining the substance or direction of their teaching practice (Handal & LauvØs, 1987; Tabachnick et al., 1979; Zeichner, 1980, 1987a). These researchers note that by highlighting only the technical aspect of teaching, student-teachers tend to regard the practice setting as relatively unproblematic, and view their role within schools as one of acquiescence and conformity to existing routines or simply maintaining the status quo. Wildman and Niles (1987) suggest that passive 'compliance' by student-teachers is a serious impediment to career-long professional growth and development; a sentiment echoed by

Glickman (1988):

It is when we believe that someone else can decide for us, or that we can control what will happen, that we stick to a plan that overrides human judgement and we lose the capacity to receive information, to educate and correct ourselves (Glickman, 1988, p. 64).

Increasingly, the model of teaching as merely 'technical prowess' is being increasingly challenged. Researchers have begun to re-examine the nature of teachers' knowledge which is 'practical' in more than just a technical or managerial sense (Feiman-Nemser, 1986, 1990). As Hargreaves (1988) notes "teachers are not just bundles of skill, competence and technique; they are creators of meaning, [and] interpreters of the world" (p. 216).

Feiman-Nemser (1986) comments that, until recently, "the prevailing view among researchers had been that teachers had 'experience' while academics had 'knowledge' " (p. 512). Teachers were not seen as possessing a unique body of knowledge and expertise. Researchers have since questioned the service mentality of the 'received knowledge' tradition arguing that it likens teaching to an information processing model that is neither a valid nor accurate description of teacher knowledge (Garman, 1986; Richardson, 1990; Sch\_n, 1983, 1987; Van Manen, 1977).

## **II. Practitioner knowledge as knowledge-in-action**

An alternative perspective that recognizes the dynamic nature of a teachers' knowledge has been referred to as 'knowing-in-action.' This knowing-in-action is manifest in the 'conversation' that takes place between the practitioner and his or her classroom setting (Garman, 1987; Holland, 1987; Sch\_n, 1983, 1987; Van Manen, 1977; Yinger, 1990). Yinger (1990) found the conversation metaphor useful because it acknowledges teaching as a social practice taking place within a specific context and characterized by the natural 'give-and-take' between the teacher and the setting. Yinger emphasizes that "the language of practice is found in the practitioners action, rather than only in his or her speech. [Good teaching] is rarely heard, but it is seen and felt" (p. 91). The notion of 'rarely heard' is an acknowledgement that a large part of a teacher's 'knowing' is indeed tacit, evidenced by the fact that teachers themselves have great difficulty in articulating what it is they know and how they have come to know it (Feiman-Nemser, 1986; MacKinnon, 1989; Richardson, 1990; Shulman, 1987, 1988). Sergiovanni (1985) describes this tacit knowledge as informed intuition:

Professionals rely heavily on informed intuition as they create knowledge in use. Intuition is informed by theoretical knowledge on the one hand and by interacting with the context of practice on the other. When teachers use informed intuition, they are engaging in reflective practice. ... Knowing is in the action itself. . . . (p. 11).

## **Implications for teacher education**

This alternate conception of teacher knowledge, as active construction rather than passive reception, has significant implications for teaching, teacher education, and research on teaching (Erickson & MacKinnon, 1991). From this perspective teacher knowledge is embedded in and emerges out of action (Sergiovanni, 1985; Smyth, 1989); it is a "situated knowledge made powerful by the contexts in which it is acquired and used" (Shulman, 1988, p. 37). This view has resulted in a marked change in the way researchers conceptualize teaching practice (Garman,

1986; LaBoskey & Wilson, 1987; Schwab, 1969; Tom, 1985). Researchers have now begun to examine the specialized knowledge that teachers acquire and use as they encounter the "complex, unstable, uncertain, and conflictual world of practice" (Schon, 1987, p. 12). The purpose is neither to predict, explain, nor to provide rules or regulations, but rather to understand and depict meaningful human action for the purpose of guiding practice (Garman, 1986; Grimmett, 1989; Sch\_n, 1988; Schubert, 1980; Sergiovanni, 1986; Wildman et al., 1990). Research in this genre has variously been referred to as interpretive (Erickson, 1986; Howe & Eisenhart, 1990; Soltis, 1984) or hermeneutic (Habermas, 1973, Van Manen, 1977). Erickson (1986) has suggested interpretive research leads to:

. . . questions of a fundamentally different sort from those posed by standard research on teaching. Rather than ask which behaviours by teachers are positively correlated with student gains on test achievement, the interpretive researcher asks "What are the conditions of meaning that students and teachers create together, as some students appear to learn and others don't? Are there differences in the meaning-perspectives of teachers and students in classrooms characterized by higher achievement and more positive morale? How is it that it can make sense for students to learn in one situation and not in another?" (Erickson, 1986, p. 127)

The focus is on intention not behaviour; on subjective meaning rather than objective observation. There are no such things as stimuli, responses, or measurable behaviours but rather "encounters, lifeworlds, and meanings, which invite investigation" (Van Manen, 1977, p. 214). Teachers are regarded as active agents in the construction of knowledge rather than passive recipients of 'professional' knowledge (Tom, 1985; Zeichner, 1980). Inquiry is grounded in practice, and its end point is action relevant to a specific setting (Connelly & Clandinin, 1986; Eisner, 1983; Firestone, 1987). Research produces 'thick description' of specific cases rather than 'codified abstract realities' garnered from statistical manipulation (Ryle, 1949). The primary concern for interpretive researchers is "particularizability rather than generalizability" (Erickson, 1986, p. 130). Stake (1980) suggests that knowledge of 'the particular' is what practitioners use to make sense of unfamiliar situations; that they begin to identify patterns in new contexts by drawing upon a repertoire of prior experiences:

Knowledge [of the particular] is a form of generalization . . . not scientific induction, but naturalistic generalization, arrived at by recognizing the similarities of objects, and issues in and out of context, and by sensing the natural covariations of happenings (Stake, 1980, p. 69).

Geertz (1973) argues in a similar vein suggesting that generality grows out of the 'delicacy of distinction', rather than the 'sweep of abstraction'; that the use of 'thick description' enables practitioners to place events in an intelligible and personally meaningful frame.

Simmons (1980) and Alderman, Jenkins, and Kemmis (1980) propose that if 'delicacy of distinction' is indeed the essence of interpretive research, then researchers and practitioners need to communicate these distinctions in a 'language' that retains all the richness and subtlety of participant interactions within the context of the setting. Several researchers argue that interpretive studies, and in particular case studies, are powerful vehicles for achieving these aims

(Erickson, 1986; Grimmett, 1989; LaBoskey & Wilson, 1987; Russell, 1988; Shulman, 1984, 1986a, 1987; Smyth, 1989; Stake, 1980; Wideen et al., 1987). An increasing number of studies provide such insights into teachers' practical knowledge.

While there is a general consensus among educational researchers that practitioners exhibit knowledge-in-action as they deal with the complexities of teaching, agreeing upon a conceptual framework to describe this 'knowledge' has been more difficult (Noordhoff & Kleinfeld, 1990; Tom, 1985). Those faithful to a Deweyan perspective prefer to visualize teaching as a process of 'deliberation' (Court, 1988); others, like Yinger (1990) see it as 'contemplation'; Fenstermacher (1988) prefers the notion of 'practical arguments'; Noordhoff and Kleinfeld (1990) use the 'heuristic of design'; while Zeichner and Liston, (1987) use a broadly encompassing portrayal of 'the moral craftsperson'. Common to each of these depictions is the notion that teachers' reflect upon their practice. Our task then it to support, encourage, and document teacher reflection in and on practice as it unfolds in the course of daily classroom practice.

## **References**

Specific references available on request.