

## The nature of knowledge in sport pedagogy

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Charles Dickens (1854/1982) opened his classic work *Hard Times* with these words:

*“Now, what I want are, Facts. Teach these boys and girls nothing but Facts. Facts alone are wanted in life. Plant nothing else, and root out everything else. You can only form the minds of reasoning animals upon Facts: nothing else will ever be of any service to them. This is the principle on which I bring up my own children, and this is the principle on which I bring up these children. Stick to the Facts, sir!” (p. 335)*

*Hard Times* expressed Dickens’ revulsion with an education system that mistook facts for knowledge. Often times, as was Mr. Gradgrind’s case in *Hard Times*, we as scientists believe that pure methods will produce pure facts and by virtue of their purity we accord these facts high status. Where we mistake facts for knowledge is in their identity, for both are highly valued. But the reasons owing to their value differ. Facts are valued for their pristine birth, their simple, yet elegant presentation, and their obvious intellectual superiority to myth, hunch, common sense, or gut feeling. A collection of facts can also be marshalled into an impressive the-

sis on any subject of importance. Should we share among us enough facts, we can call ourselves a learned body and the field of Sport Pedagogy a scholarly endeavor with an honorable heritage rooted deeply in fertile soil of scientific convention.

What then was Dickens' problem with Facts? If Gradgrind faithfully followed the footpath of science, why was he, and his children, not rewarded with the true and higher meaning of life? Aren't Facts, after all, what education is all about? Is it not scientifically tested facts that will bring us to the promised land of better schools housing more competent teachers who stand before more efficient learners? If you left this room with the Ten Most Important Facts of Sport Pedagogy wouldn't you leave happy, satisfied that your long journey has come to its rightful end and you can now go home and pump out prodigious legions of proficient pedagogues skilled at teaching sport and movement?

What Dickens saw as the problem with Facts was that they were born of, and therefore resembled, science. Not being blood relatives, these Facts knew little of the experiences of life. Facts come from the methods of science, not the experiences of living. Facts are valued for the means that produce them, not the ends they serve. The difference between a body of facts and a body of knowledge lies in their source of value. Knowledge is valued for what it can do; not necessarily from where it came.

Should we then forsake science and celebrate solely the experiences of life in the gym? No. Science has much to tell us about life, especially in the gym. We simply cannot believe, however, that the Science of Sport Pedagogy and the Practice of Sport Pedagogy are one and the same.

If science alone will not sketch the complete picture of sport pedagogy, and if practice alone fails at the same task, the question before us as sport pedagogy scholars is this: How do we study the knowledge of our field? Knowledge is a slippery phenomena to study. What constitutes knowledge? Who determines what counts as knowledge? What is it made of? How do you find it? What do you do with it once you find it, if you find it? This paper attempts to answer some of those questions. Specifically, this paper is about the task of studying the nature of knowledge in sport pedagogy.

If we are to understand the nature of sport pedagogy, it seems prudent to have a definition of sport pedagogy. I turned to the International Committee of Sport Pedagogy for their view. In their recent publication (Piéron, Cheffers, & Barrette, 1990), I found no less than six distinct definitions. What appears common to all six definitions is that sport pedagogy is constituted in the actors and actions of teaching and learning purposeful human movement. If you will accept this rather broad definition, we can look back together over the recent decades and celebrate with just cause, the successes and accomplishments in pedagogical scholarship. We've learned much about who these teachers are, what they do in gym and why, and how they might do it better. There remains, however, much to be explored in sport pedagogy and I submit to you that knowledge stands as one those largely unexplored areas.

I began to suspect this 12 years ago while completing my doctorate at Boston University under the advisement of John Cheffers. Like most doctoral students of my era, I was busy counting things I saw teachers doing on videotapes. In this particular instance, I was using CAFIAS and studying the interaction between students and teacher. The teacher would talk and students would move. The teacher praised or scolded and the students smiled or frowned. It was much like watching a tennis match with each behavior acting like a stroke. The teacher served, the students returned, forehand by the teacher, backhand by the students, one charges the net, the other hits a lob, and so on and so on until the point was scored, or to be more precise: until the teacher's point was made.

But something was missing. I began to wonder what it was they were «hitting», in other words, what was IT that was moving between the teachers and students? In a tennis match, I could watch the ball and see how minor alterations like top spin, effected the play and determined the next stroke. But in teaching, I couldn't see the ball. But *something* was moving between the teacher and the student. What was IT? IT was knowledge. IT was the whole point of the lesson. IT determined, at least in part, the who, what, why, where and how of the teachers behavior and that, naturally, influenced the students' response.

As teacher educators and researchers, wouldn't it be nice if knowledge in sport pedagogy was like a tennis ball. We could find really talented

players and check their understanding of and skill in manipulating these objects. Or we could just collect a variety of knowledge nuggets, place them in a can and pass them out to aspiring teachers. But unfortunately, knowledge isn't like that. We can't neatly package and present the knowledge of sport pedagogy to teachers and then have them enter gyms to ply their craft. This would be no less feasible than presenting a can of tennis balls to a novice and expecting them to exhibit skill in their use. That does not, however, remove the fact that knowledge is as fundamental to teaching as a ball is to tennis. Knowledge still remains the focus and primary purpose of all our actions, and must, therefore, be closely examined and understood. But how to do this is not all together clear.

In the remainder of this paper, I shall discuss some possibilities for exploring this important territory. I shall do so by suggesting a metaphorical exploratory trip into an unknown territory. Before we embark upon this trip, several items will need to be secured.

First and foremost, we'll need a map: the best we can find. Because this territory is not particularly well known, the map will not be all that accurate, but at least it gets us in and perhaps helps us around. Next we'll need several vehicles. I suggest several vehicles because we don't know precisely the type of terrain we will encounter, we might say that we don't fully understand the nature of this new territory. As discoveries are made and catalogued, subsequent explorations will be conducted by new pioneers, in different vehicles, using improved maps charted by their predecessors. In more intellectual circles, territorial maps are call theories and exploratory vehicles are called research paradigms. Let me first discuss the map, and then show you the vehicles.

## **1. EXPLORING THE NATURE OF KNOWLEDGE IN SPORT PEDAGOGY: A MAP**

Because of its social, relative, and dynamic qualities, there appears, at least at this time, no singularly proper way of studying the nature of knowledge in sport pedagogy. Therefore, it seems improbable that any system for classifying the various dimensions of knowledge would be complete. And because the social nature of knowledge forces it to fluc-

tuates, it seems improbable that any one method of analysis would be the definitive technique for understanding the constitution or nature of knowledge. This should not, however, deter us from exploring this critical element. Part of the excitement of any exploration is the danger and the challenge. Simply understand, that the following is not a claim to THE one right way to explore the nature of knowledge in sport pedagogy.

Knowledge in pedagogy has, historically, not received a great deal of attention from scholars. Recently, however, this has begun to change. With Shulman's (1986, 1987) seminal work on a knowledge base for teaching serving as a flashpoint, scholarly interest and activity in this area has ignited. This work is not without its critics and limitations (Sockett, 1987). Shulman's theory does not encapsulate the entire constellation of knowledge in our field; nor should be considered a complete theory for understanding the nature of knowledge in sport pedagogy any more than a diagram of the skeletal system be considered the complete guide to human anatomy. Shulman's theory simply offers one perspective that appears a good place to start.

The primary reason for this opinion was perhaps best stated by Alan Tom (1992) when he wrote that Shulman's conception of teachers' knowledge «is one of those rare ideas that has the capacity to lift us out of our old political struggles in teacher education and to recast the way that we understand our task as teacher educators» (p. 12) and scholars, I might add. Agreeing with Tom's powerful endorsement of Shulman's (1987) theory, much of this year's work in the Curriculum and Instruction Research Laboratory at the University of Georgia has used Shulman's framework. While it would be premature to discuss our findings at this point in time, we are sufficiently impressed with the theory that I would like to suggest its use as entry point in studying the nature of knowledge in sport pedagogy.

I'd like to now turn to what Shulman (1987) proposes as the «broad outlines and categories of the knowledge base for teaching» and explore their fit for understanding the nature of knowledge in sport pedagogy. A refined definition of each knowledge category will be presented, several examples of applicable and completed sport pedagogy research will be identified, and new research ideas will be suggested.

## 2. KNOWLEDGE BASE FOR TEACHING

In proposing a scheme titled «Categories of the Knowledge Base», Shulman (1987) concedes that these categories represent, at best, a minimum of the areas of teachers' knowledge. His proposal drew from his attempts to classify the case study research he and his colleagues conducted under the project «Knowledge Growth in Teaching.» As this research develops and expands, the definitions of these categories will continue to evolve. In Shulman's (1987) original knowledge base, seven categories were identified: content knowledge, general pedagogical knowledge, curriculum knowledge, pedagogical content knowledge, knowledge of learners, knowledge of educational contexts, and knowledge of educational goals. Each in turn will be examined.

**Subject matter knowledge.** If «subject matter concerns permeate the task of teaching» (Feiman-Nemser & Parker, 1990, p. 42), it would follow that subject matter knowledge is critically important to the teacher. Subject matter knowledge includes the facts and concepts within a discipline and the relationships between them (Grossman, 1990). It is the amount and organization of knowledge in the mind of the teacher. Subject matter is the what of teaching and without it, there is nothing to teach. It is the teacher's understanding of what is to be taught and is the core of teaching. Subject matter knowledge requires a flexible and multifaceted understanding as it transcends disciplinary knowledge to include all facets of human understanding. This understanding allows the pedagogue to «elucidate knowledge in new ways, reorganize and partition it, clothe it in activities and emotions, in metaphors and exercise, and in examples and demonstrations» (Shulman, 1987, p. 13).

To date, this appears a widely neglected area of study in sport pedagogy. Fifteen years ago, Anderson and his students (Anderson & Barrette, 1978) took an insightful look into what was being taught in physical education. Unfortunately, little has followed that initial work. Almost no work has been done on how teachers conceptualize and teach the subject matter of sport. However, that trend seems to be abating with the intriguing work by Rovegno (1992a) and the teaching for understanding movement in England (Bunker, & Thorpe, 1982). Understanding and experimenting

with new forms of subject knowledge seems, at least to me, important work that must be undertaken if sport is to advance.

**General pedagogical knowledge.** If any area of sport pedagogy has received attention, this is it. General pedagogical knowledge is comprised in the skills, strategies and principles teachers use in conducting and managing their classrooms. Research on general pedagogical knowledge seeks prescriptive and generalizable links between modes of teacher behavior and student outcomes (Grossman, 1990). Specifically, Shulman (1986) believes this knowledge category «. . . incorporates the more generic capacities for lesson and unit planning, classroom organization and management, teaching techniques, student evaluation and grading and the like» (p. 9). It is a particular form of knowledge that teachers may share in common for it transcends subject matter, grade level, and other contextual conditions.

Because of its generic qualities, general pedagogical knowledge has served as the focal point for the majority of research on teaching. In physical education, research on academic learning time (Dodds & Rife, 1983), decision-making (Mancini, Wuest, Cheffers, & Rich, 1983), teacher effectiveness (Silverman, 1991), and classroom management (Fink & Siedentop, 1989) can all be viewed as contributions to general pedagogical knowledge. Recently, Metzler (1992) lamented the lack of research activity in this area and argued that additional work is not only desirable, but necessary. I am inclined to agree with him, particularly when one considers the paucity of research completed on teachers' understanding and use of general pedagogical knowledge, and the social and institutional constraints to general pedagogical behavior in teachers' workplaces.

**Curriculum knowledge.** Curriculum knowledge serve as the teachers' «tools of the trade» (Shulman, 1987). Teachers use these «tools» in helping them reach decisions regarding the selection and organization of learning experiences. This knowledge provides the teacher with an understanding of how various topics, content, instructional materials, learning activities and outcomes relate and fit into the wider scope of instructional programs. Such knowledge allows the teacher to decide on the choice of available textbooks, teaching aids, evaluation instruments, etc., from a myriad of options, and package them into a systematic and coherent unit

to meet proposed and ever-changing educational ends (Shulman, 1986). While I personally find this an overly technical and functional definition of curriculum, it does, however, represent a recognized perspective.

Curriculum research in physical education has historically, as anyone in curriculum is likely to tell you, been underappreciated. Ann Jewett is generally credited with keeping our attention focused on this important area in North America through her work with the Purpose Process Curriculum Framework (Jewett & Bain, 1987). The work of Kirk and Tinning (1990) in Australia, Evans (1986) and Sparkes (1992) in Great Britain, and Bain (1985) and Ennis (1992) in North America indicate that curriculum research in sport pedagogy is not only alive, but kicking hard. This appears to be one area poised for rapid growth.

***Pedagogical Content Knowledge.*** Of all the categories in Shulman's knowledge base for teaching, none has attracted more attention than pedagogical content knowledge. And like many good concepts, this category has a diversity of definitions. The definition we have adopted comes from Grossman (1990). To date, it appears the most commonly used and to us, it makes the most sense. Grossman defined pedagogical content knowledge as comprised in four components: (a) knowledge about the purposes of teaching a subject at different grade levels, (b) knowledge of students' conceptions and misconceptions of a subject, (c) knowledge of curricular materials for a particular subject, and (d) knowledge of strategies for teaching particular topics in a given subject. This definition appears composed of bits and pieces from the other categories, and perhaps it should for as Shulman (1987) put it, pedagogical content knowledge is «that special amalgam of content and pedagogy that is uniquely the province of teachers, their own special form of professional understanding» (p. 8). The definition, as Tom (1992) noted, is still not entirely stable because each study gives us a slightly clearer picture of what it is "uniquely the province of teachers."

While stirring a flurry of activity in general educational research (Gudmundsdottir, 1990; Grossman, 1990; McEwan & Bull, 1991), the concept of pedagogical content knowledge is only just beginning to appear in sport pedagogy (Rovegno, 1992b). Given the energy and momentum this topic has for other subject areas and its apparent importance to understand



what teaching is really all about, it appears only a matter of time before more work is completed in sport pedagogy. In my own lab, we are completing two studies in the area; one comparing the pedagogical content knowledge of experienced and novice teachers, and the other on the influence of subject matter expertise on pedagogical content knowledge.

***Knowledge of learners and their characteristics.*** Teachers must draw upon their knowledge and understanding of diverse student populations, in order to be effective in meeting specific needs and demands of students. Knowledge of learners and their characteristics include the cognitive, physical, emotional, social, historical and cultural factors that help mould and account for differences among individuals. Such factors cover a wide spectrum of knowledge in growth and development, learning capacities and modes, cultural and linguistic differences, and psychosocial influences that give rise to certain attitudes, dispositions and aspirations amongst the learners (Shulman 1987).

From time to time and in different ways, sport pedagogy researchers have studied learners and/or their characteristics. The ALT-PE studies (Dodds & Rife, 1983) certainly turned our attention to the learners as an indicator of teaching effectiveness. I quite agree with Dick Magill (1990) that motor learning research offers a wealth of information about learners and their characteristics to sport pedagogues. There is also much research completed on the effects of sport and physical activity on such topics as self-esteem (Gruber, 1985), growth and development (Broekhoff, 1985), and social development (Sage, 1985). It puzzles me sometimes as to why sport pedagogy scholars appear to have an aversion to looking at and a complete lack of curiosity regarding the students of sport and physical education. Some very interesting research on student cognition by Amelia Lee and her colleagues (1992) may signal a reversal of this debilitating trend.

***Knowledge of educational contexts.*** Knowledge of educational contexts informs teachers' practices, beliefs, purposes, and perspectives. Educational contexts represent the social and environmental factors in and around the classroom. According to Shulman (1987), this knowledge ranges from the «workings of the group or classroom, the governance and financing of school districts, to the character of communities and cultures» (p. 8).

While studies to explore this realm of teachers' knowledge of educational context have been suggested (Schempp, 1990), only a few investigations have been completed. Investigations into knowledge of educational context have focus on such issues as teacher status (Lawson, 1989), school and community expectations (Schempp, 1993), and occupational rewards and satisfaction (Templin, 1989). Precisely how educational contexts effect schools, teaching, and learning, remains a largely unexplored territory in both general and physical education.

***Knowledge of educational ends, purposes, and values.*** This body of knowledge represents what it is teachers want students to learn in their classroom and school programs. Knowledge of educational ends are based on the teacher's perceptions and beliefs regarding the purposes of school, understanding of subject matter and society, and needs of the learner. According to Shulman (1987), «we engage in teaching to achieve educational purposes, to accomplish ends having to do with student literacy, student freedom to use and enjoy, student responsibility to care and care for, to believe and respect, to inquire and discover, to develop understandings, skills, and values needed to function in a free and just society» (p.14).

Traditionally, this area affiliates with curriculum research; again Jewett's work (Jewett & Bain, 1987) with the PPCF, Ennis' (1992) studies of value orientations, and Bain's (1989) research on the hidden curriculum serve as three examples. Don Hellison's (1993) work provides an exemplar of educational ends and values being the center piece and starting point for researching sport pedagogy. To date, we can find several sport pedagogy studies and projects that would enlighten teachers, teacher educators and scholars regarding purposes and educational ends. Unfortunately, there is too little research in this important area and I am particularly troubled by its seemingly lack of acceptance by the those who consider themselves more «mainstream». As our understanding of sport pedagogy expands and we move away from teachers' behavior as the singular criterion of acceptable research, I look to studies and scholarship in educational purposes and values to provide some important clues that will make sport of greater importance to both the students and wider society we serve.

### 3. SEEING THE WHOLE MAP

Often times while on a journey it is more efficient and less cumbersome if we fold the map and simply concentrate on a small area of the larger territory. But occasionally, one needs to unfold the map to get a broader perspective on the travels undertaken in order to realize where we've been and where we need to go. In unfolding Shulman's (1987) map, it becomes obvious that we've spent a good deal of time exploring the area of general pedagogical knowledge. It also seems that there is still more ground to cover in this portion of the map. However, for those searching for new ventures, the map seems to indicate many fresh areas awaiting academic pioneers; content knowledge and educational contexts are two that jump to mind immediately. As we use other theories of knowledge drawn from different philosophic perspectives, we shall discover additional territories and plan still more voyages. But for now, we're not finished with this voyage. Let me turn your attention to the vehicles that will carry us into these previously discussed territories.

### 4. DISCOVERY THE NATURE OF KNOWLEDGE IN SPORT PEDAGOGY: THE VEHICLES

Investigating the nature of anything requires more than maps and theories. One must also have appropriate ways of systematically studying the phenomenon of interest. I will draw heavily from the work of Jürgen Habermas (1978) in suggesting the vehicles for exploring the nature of knowledge in sport pedagogy. I've selected Habermas' work for two reasons. First, his work is identified by others as descriptive of three dominant paradigms in educational and sport pedagogy research (Carr & Kemmis, 1986; Tinning, 1992). Second, these categories of research emanate from what Habermas describes as knowledge-constitutive interests. Linking lines of inquiry with interest specific knowledge seems appropriate for exploring the nature of knowledge. Habermas identifies specific forms of human interests with specific forms of disciplined inquiry because he believes there exists: «. . . *three categories of possible knowledge: information that expands our power of technical control; interpre-*

*tations that make possible the orientation of action within common traditions; and analyses that free consciousness from its dependence on hypostatized powers. These viewpoints originate in the interest structure of a species that is linked in its roots to definite means of social organization: work, language, and power » (p. 313).*

To summarize, the three forms of science and their associated interests described by Habermas include: (a) empirical-analytic sciences which lead to technical control, (b) historical-hermeneutic sciences which lead to interpretations that can orient practical action, and (c) critical social sciences that free consciousness from its dependence on unjust or unnecessary forms of domination. Each of these sciences offers a different perspective and a unique avenue in understanding the teaching and learning of human movement.

This paper does not represent the first time someone has suggested these sciences for sport pedagogy. In describing various forms of action research, Richard Tinning (1992) identified specific ways that the interest in the knowledge effects the collection and interpretation of data. The unique contribution each science offers exploratory ventures into the nature of knowledge in sport pedagogy will now be discussed.

## **5. EMPIRICAL-ANALYTIC SCIENCES**

Of all the sciences available to the scholarly study of sport pedagogy, the empirical-analytic perspective is the oldest and most developed. While all paradigms use data to some degree, it is the empirical-analytic paradigm that holds rigorous, formal procedures for its collection and analysis. The stricter one follows these tenets, the better the study. The empirical-analytic paradigm provides the positivist view of the social world and human behavior. Human behavior is regarded as measurable, causally derived, and thus both predictable and controllable (Smith, 1989). Particularly valued is knowledge that can be formalized and /or quantified, and this assumes the existence of discrete, measurable variables and regular, generalizable relationships among them. The role of knowledge, and thus the purpose of much empirical-analytic research, is the prediction and control that can enhance teacher effectiveness (Cornbleth, 1990).

The empirical-analytic paradigm revolves around two factors: (a) theories of connecting propositions which lead to lawlike hypotheses, and (b) a system of corroborating or testing these hypotheses. Thus, these sciences attempt to objectivize the teaching process, thereby making it reducible to a set of skills or principles over which technical control is possible. In exploring the nature of knowledge, Shulman's (1987) theory can thus be operationalized into a set of lawlike propositions, with these propositions tested for their fit to a objective standard. Potential questions that may be posed under this paradigm might for example be «*Does a teachers' knowledge of student motivation influence pedagogical practice?*» or «*Do more effective teachers have a greater knowledge of subject matter than less effective teachers?*» These forms of technical knowledge may prove useful in the professional preparation of teachers, and perhaps provide some insights for experienced teachers as well.

## 6. HISTORICAL-HERMENEUTIC SCIENCES

Scholars working in the historical-hermeneutic (a.k.a. interpretive) sciences perceive a clear distinction between the natural world and the social world. In these sciences, human actions are assumed to be based upon social meaning, intentions, and beliefs (Bredo & Feinberg, 1982). That is, people do not simply respond to stimuli but interpret them, and these interpretations guide their actions. Interpretive researchers stress the need for understanding events and situations from the perspectives of participants (Earls, 1986).

The historical-hermeneutic analysis provides a window for deriving the meanings teachers' give their in-school experiences. This paradigm illuminates the world view of teachers from the teacher's individual and collective experiences. Studying Shulman's (1987) framework from this perspective would seek to understand the contextual social rules and assumptions that underlie teachers' actions and knowledge, identify the social norms and expectations that give status to various types and forms of knowledge, and finally, reveal how teachers' knowledge is, or can be, perceived by others in and out of schools.

## 7. CRITICAL SOCIAL SCIENCES

Scholars utilizing the critical paradigm ask different questions and provide a significantly differing perspective from those using the empirical-analytic or interpretive paradigms. Habermas (1978) explains that critical social sciences seek to: *«determine when theoretical statements grasp invariant regularities of social action as such and when they express ideologically frozen relations of dependence that can in principle be transformed. To the extent that this is the case, the critique of ideology, as well as psychoanalysis, take into account that information about law-like connections sets off a process of reflection in consciousness of those whom the laws are about.»* (p. 310)

*«The methodological framework that determines the meaning of validity of critical propositions of this category [of science] is established by the concept of self-reflection»* (Habermas, 1987, p. 310). Therefore, analyses of sport pedagogy knowledge in this framework would attempt to not only understand how existing social structures maintain and reproduce accepted forms of teachers' knowledge, but also seek alternatives that lead to emancipatory practices and greater social justice for instructors and learners of sport and movement skills. Critical research attempts change as well as understand the processes of the ideological legitimization of knowledge. The goal of this work is the transformation of social regulation and, ultimately, the emancipation of people from all forms of domination by creating alternative practices founded upon the principles of social justice. In sport pedagogy, for example, the status and constitution of our subject matter in schools and society could be questioned and should injustices be noted, practices could be suggested that would result in a more equitable treatment of the subject matter of sport.

Critical research is regarded as a relatively new addition to the sport pedagogy community and appears, at least to me, to be terribly misunderstood by mainstream sport pedagogy scholars. Given that the aim of this research is transformation and emancipation, and not refereed publications in prestigious journals, don't look for a ground swell of university professors to flock to this science. It would be a hard sell to any tenure, promotion or search committee that your work counts in people's lives when those committees only count what is in a vita.

Despite that lack of support generally felt by scholars working in the critical social sciences, sport pedagogy is beginning to see an emergence in this field. I count Kirk's (1992) historical analysis of curriculum, Dewar's (1987) work in feminist scholarship, Hellison's (1993) work with at-risk kids and Tinning and Evans' (1992) «distance education programs» as among the leading examples of the discovery of sport pedagogy knowledge in the critical social science tradition.

What makes Habermas' (1978) proposal particularly apropos to understanding the nature of knowledge in sport pedagogy is that he identifies the source by which value is ascribed to knowledge: human interest. The German word for knowledge laden with human interest or value is *Erkenntnis*. It is unfortunate that English lacks a suitable translation. Recall for a moment, the opening passage from Dicken's *Hard Times*—the monologue of Mr. Gradgrind expressing his desire for Facts—and you will see what Gradgrind was missing was an understanding of *Erkenntnis*; an understanding that the voyage to the discovery of knowledge is powered by human interests. I wonder if many scholars in sport pedagogy are also missing *Erkenntnis* in their search for Facts. I would like to close out this discussion of exploratory vehicles with a final quote from Habermas that I believe has particular importance to the scholars of sport pedagogy at this point in our field's development:

At first sight, it seems to be no more than a strange coincidence that causal explanations (which are based on empirico-analytical knowledge) can, in principle, be translated into technically useful knowledge and that narrative explanations (which are based on hermeneutic knowledge) can be translated into practical knowledge. This fact ceases to be a coincidence when we can explain it in terms of the relative embeddedness of theoretical knowledge in a universal context of interests. (p. 370)

## **8. THE EXCITING SEARCH AHEAD**

The majority of serious scholars in sport pedagogy have already recognized that one paradigm, or vehicle, is not going to transport us to all our answers. One of the truly encouraging developments has been the recent recognition of the role of theory in sport pedagogy research

(Sparkes, 1992). We seem to be, slowly, weaning ourselves from the debilitating habit of identifying research traditions with methods and are now moving to a higher intellectual plane. Let us be quick to add that methodology is important to good scholarship, regardless of the paradigm. Owing, however, to the «technocratic rationality» of the empirical-analytic sciences that were so fundamental to establishing the legitimacy of sport pedagogy as a scholarly field, the looming quality question was, for too long: are your data any good? or as a Gradgrind demanded: «Now, what I want are Facts.» (Dickens, 1854/1982, p. 335). We seem to be moving beyond that and are now also asking: are your questions any good? or whose interests do your Facts serve? In addressing both concerns, we not only check the soundness of the exploratory vehicles, but take an occasionally glance at the maps as well.

There remain many important questions for sport pedagogy scholars to ponder and study. Understanding the nature of knowledge holds much promise, I believe, for the future preparation in and practice of sport instruction. By carefully charting the areas we travel, and using a variety of vehicles to explore unknown territories, we can move to new discoveries in sport pedagogy. Perhaps if we, as scholars, show greater concern for exploring new terrain, and less concern for guarding old turf, we can unlock some of the mysteries and better understand the nature of knowledge in sport pedagogy.

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