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The Practices of Expert Teachers

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Introduction

Everyone who steps in front of a group of students wants to teach well. Teachers spend countless hours in preparation for teaching. Many continue their education far beyond their initial training by attending workshops, reading relevant books and articles, and pursuing advanced degrees. It is interesting to note, however, that it appears to be the better teachers, those with more experience and expertise, who more avidly pursue knowledge to teach better. In a recent study, it was found that experienced teachers believed they had a great deal to learn about teaching, while novice teachers believed they knew everything they needed to know about teaching (Schempp, Tan, Manross, & Fincher, 1998). The better teachers are eager to learn. It is perhaps one reason they are better teachers.

Over the course of the last several years, research conducted at the Sport Instruction Research Laboratory at the University of Georgia (USA) has focused on understanding the characteristics and qualities of expert teachers in a variety of subject areas. While all of the subjects studied were sport or physical activity related, the findings hold implications for all teachers looking to improve their practices.

Theory

An accepted theoretical framework traditionally guides a line of research. Our research into expert teaching is strongly influenced by both educational (Berliner, 1994) and cognitive psychology (Chi, Glaser, & Farr, 1988; Ericsson, & Smith, 1991). In reviewing the literature on experts, it was discovered that a range of experts, including chess masters, taxi drivers, X-ray technicians and waiters had been studied (Tan, 1997). However, these studies on expert teachers were limited; the completed research and subsequent theoretical developments became invaluable foundations to planning, conducting and interpreting our studies of expert teachers.

Research

Early in the process, it was decided that a standard set of research questions and data collection procedures be adopted. These questions and procedures were derived from the theoretical perspectives and completed research on expertise. While the questions asked and methods used for each study varied slightly, the fundamental change in each study was the sport or activity. What we attempted to do was to conduct similar studies across a broad band of teachers in search of a common set of characteristics of expert teachers.

The first study conducted investigated the practices of professional baseball and major league hitting instructors in the USA. Next, Teachers of the Year from the Ladies Professional Golf Association were studied. Other studies studied included Golf Magazine's Top 100 Instructors in America, public school Physical Education Teachers of the Year and an expert dance instructor. A study of the leadership and communication qualities of a five-time national champion gymnastic coach represented a slight diversion in research protocol, but has still helped us to better understand the nature of expertise in sport instruction. The most recent studies have been conducted with internationally recognized tennis teaching professionals.

In all, six different areas of instruction, covering a variety of teaching environments were represented. In this article, the common characteristics of these expert teachers' teaching practices will be revealed.

Characteristics

Theories from cognitive (Ericsson & Smith, 1991) and educational psychology (Berliner, 1994) have identified specific characteristics of expert teachers. These characteristics formed the basis of our research methods and inquiry. The findings from our studies have lent general support to these characteristics as they are found among teachers in various subject areas. Furthermore, these studies have generated a rapidly increasing line of inquiry in the field of sport pedagogy.

Extensive Knowledge for Teaching

While experts seldom claim they know everything they need to know about teaching, they will usually admit that few people know more than they do about students, the subjects, or instructing students in the subject. They will use virtually any resource they believe may be useful in their teaching (Schempp, Templeton, & Clark, 1998). The depth of an expert's knowledge permits him or her to find a variety of ways of communicating the concepts to students, devise remedial activities for students having difficulties, and to quickly assess a student's current skill level and potential ability (Schempp, Manross, Tan, & Fincher, 1998).

Knowledge Is Hierarchically Organized

Not only do experts have a vast store of knowledge, but they also possess knowledge that is organized in a prioritized fashion to assist them in remembering new information and recalling pertinent information for the task at hand. As experts receive information, they 'chunk' it with other pertinent information that allows the information to be meaningfully related.

In a teaching example, an expert teacher may survey the classroom during an activity session and notice that one student is leaning towards another and talking. For a novice teacher, this is a rule infraction and punishment would be swift. But for the expert teacher, this observation sets off a whole range of 'chunks' as they instantaneously connect the new information with previous information about the students, the class environment and the learning activities. Hence, an interpretation may easily and accurately form. In this case, the teacher may interpret that situation differently: the students are top students with no history of disrupting class. They are good friends who often cooperate and help one another with class assignments. Therefore, they are most likely discussing strategies for successfully completing the learning task. The fact that the students appear serious and contemplative may further support this prediction. The teacher, therefore, allows them to continue the discussion.

Acute Perceptual Capacities

While everyone may observe the same activity occurring, it is the expert who is able to sort the important from the unimportant in the information stream and retain those facts that are valuable and discard those of no importance. It is often said that experts see things the rest of us miss, but in reality, they see the same thing. They are just better at interpreting the significance of what they see. This ability permits acute perception of the activities they observe.

Problem Representation and Solution

When confronted with a problem, experts try to understand it as thoroughly as possible before attempting a solution. Novices are more inclined to jump to a solution with little or no thought. This is known as the 'ready, fire, aim' syndrome. By relying on their extensive knowledge base and wealth of experience, experts define the situation, identify constraints, isolate factors causing the problem, and evaluate potential solutions (Tan, 1997). In solving problems, experts rely more on underlying principles and metaphors rather than literal or practical factors.

Automaticity of Behavior

To observe an expert teacher is to observe a master craftsperson. Their instructional activity takes on an easy, graceful elegance, as one activity seems to flow

seamlessly into the next. This fluidity occurs because the behavior and actions of the teacher are a collection of well-rehearsed routines. These ritualized patterns have been performed countless times so that they occur without conscious thought or effort, i.e., they have in essence reached automaticity (Bloom, 1986).

Short and Long Term Memory

Related to the extensive and hierarchically arranged knowledge, expert teachers are able to remember more than less expert teachers. This does not mean that they are necessarily more intelligent than everyone else; it simply means they remember more. In a recent study (McCullick, Schempp, & Schuknecht, in review), expert teachers displayed three strategies for recalling information stored in memory. Through evaluative and speculative recall the expert focuses on specific aspects of a student's performance with educated guesses as to what is causing or has caused the problem. In prescriptive recall, experts identify skills that need to be improved and how improvement can be achieved. Finally, descriptive recall represents cataloging materials, equipment and the environment in memory. In summary, what accounts for the experts' superior memory is the meaning they attach to the objects, events, and information they commit to memory.

Self-Monitoring

Experts are people who never stop learning and improving. Experts in any field are committed and dedicated to consistently performing at the very best they are capable of. Experts are acutely aware of errors they make and have a keen sense as to why they failed to comprehend certain elements of the problem. They are also aware of the appropriateness or adequacy of the solutions attempted (Chi, Glaser, & Rees, 1982). They objectively and honestly assess and identify their shortcomings and knowledge deficiencies with a high degree of precision. They are, therefore, better able to accurately analyze the cause of their failure, and take corrective action. These superior monitoring skills and self-knowledge of experts are attributed to their greater underlying knowledge of the domain and the way they represent that knowledge.

Teaching Practices

In addition to the characteristics of expert teachers, our line of inquiry has attempted to identify the practices that permeate and define expert teaching across multiple instructional contexts and subjects. Briefly, these common teaching practices were identified by having the experts teach a typical lesson, which was videotaped. Using a variety of analytic techniques ranging from simple surveillance to systematic observation, the following instructional perspectives and practices appeared to consistently emerge in expert teaching.

Professional Orientations

A teacher's professional orientation is important in determining the 'what' and 'how' in teaching. In a study of the Top 100 Golf Teachers in America we were able to identify the expert teachers' beliefs about teaching (McCullick, Schempp, & Cumings, 1999). The perceptions that experts held of students, subject matter, and successful teaching varied slightly from teacher to teacher. In other words, no two expert teachers see things in exactly the same way. There appears, therefore, no one set or right way to view teaching. The two most dominant orientations these teachers held were: (a) teachers as repair persons, and (b) teachers as ambassadors for the subject matter. Those who saw themselves as repair persons attempted to identify faults in student performances and then fix those faults. Those who saw themselves as ambassadors of sport tend to emphasize an appreciation and enjoyment of the activity.

Opening a Lesson

As we began reviewing the videotapes, it appeared to us that these teachers were wasting a great deal of time at the beginning of the lesson by making small talk with their students. It wasn't until we sat down with these teachers and asked them why they spent up to 20 minutes of class during the introduction merely talking with students about things that didn't directly bear on the lesson that we realized the importance of establishing teacher-student rapport. Their answers were eye opening. Firstly, they believed it was important to deliver a sincere and friendly greeting to each student as this sent the message that the student was welcomed and appreciated and that the teacher was pleased to see them and looking forward to teaching them.

Secondly, the series of questions that followed had two goals: (a) getting the students talking, and (b) getting information. In getting the students to talk, the teacher is indirectly building rapport with his/her students. It insured that if a student had questions later in the class, he or she would feel comfortable in asking them. In getting information, the teachers believed it was not possible for them to teach their students well if they didn't understand how the students were feeling, what the students knew, why the students wanted to learn, and what previous experience the students had with both the subject at hand and related subjects. All of this information would later be crafted into the lesson as it unfolded.

Setting Goals

In every case, for every subject, expert teachers teach with a purpose. They are very clear in that the student before them will walk out of the lesson knowing something that they did not know when they walked in through the door. The goals expert teachers use to direct and guide their instructional activity have three

characteristics: (a) few goals are set, (b) goals usually pertain to student achievement, and (c) goals are clear and specific. Having only one, two or at most three goals also causes the lesson to be tightly focused and keeps the students and teachers working together toward a common objective. Most of the teachers we studied preferred only one goal per lesson. The goals were based on student motivation, ability, and current skill level. In other words, the goals were designed to take the student from where they are to where they would be. Goals for the motivated students or gifted were more challenging. Goals for the experienced students were logically more complex or advanced. Finally, the goals were stated in simple, specific terms that made them both comprehensible and achievable. For example, rather than 'the student will improve', expert teachers work with specific goals such as 'students will hit a golf ball 50 yards in the air,' or 'students will learn to hit an overhand serve with left to right spin'.

Giving Information

In attempting to understand why the students of expert teachers learn more than students from lesser skilled teachers, we examined patterns of communication. One striking characteristic of experts' instruction was that they actually taught less, but they taught it better. Specifically, they made the points of their lessons few, but threw those points into as many different combinations as possible. Explanations, demonstrations, guided practice, video, discussions, anything that represents a different perspective to make the same point represents the expert teachers' teaching. As might be anticipated due to their love of both subject and students, expert teachers teach with a great deal of enthusiasm that further motivates their students' learning.

Getting Students Active

Expert teachers realize that passive students are passive learners. In order to get students to learn more, students need to be actively involved. They accomplish this by getting the students talking during the opening of the lesson. Then with brief directions and a few instructions, they get students involved in the learning task. Experts realize that the key to learning is active practice and interaction with the subject matter, not listening to endless hours of a teacher sharing their knowledge about a subject. Finally, when students did take an active part in the lesson, by asking questions, sharing insights, and experimenting with their newly discovered knowledge, the experts responded by facilitating positively and with acceptance. Thus, they found ways to reinforce and build on the students' contribution to their own learning.

Student/Teacher Interaction

Analyzing the interaction between teachers and students allowed us to profile certain characteristics of the experts' lessons (McCullick, *et al.*, in review). Experts

created positive, accepting learning environments by asking meaningful questions, accepting students' responses, praising student practice and seldom criticizing poor practice performances. Engaging students in analytic discussions was dependent on first getting the students to respond to questions with the teacher accepting the students' ideas once they began talking. High rates of directions and demonstrations by the teacher prompted student discussion and stimulated extensive practice of the subject at hand. We also found that student practice of the learning activities was significantly related to the amount of praise received from the teacher.

Lesson Conclusion

Much like the introduction to the lesson, the teachers shared with us their reasons behind the activities we found at the close of the lesson. The lessons most often concluded with a summary of the main points of the lesson. This might be the teacher quickly identifying the key learning concepts from the lesson, or asking either an individual student to recite the list or having students randomly contribute each of the main points. It was also common to close the lesson with the last activity being a successful one, and the teacher recalling some of the achievements attained in the lesson. Often, prior to the students leaving, the teacher would suggest ways the students could practice the activities or apply their newfound knowledge outside the class.

Summary

Expert teachers are made, not born. This is good news for those aspiring to be great teachers and those preparing to be teachers. We know that teachers can become more expert, but it takes years of experience and knowledge to elevate one's teaching. It also takes deliberate practice of teaching skills and an honest appraisal of teaching skills and knowledge along with a desire to be the best. Finally, great teachers measure their success not in personal recognition or glory, but rather in the learning of their students. To see a student smile after mastering a new skill, or walking away from the lesson anxious to apply their newfound knowledge is what drives the great teachers.

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