The finishing touch: anatomy of expert lesson closures

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Background: Based on the idea that students remember best what is presented last, the lesson closure is commonly identified as an important component of effective teaching and has recently surfaced as a routine practice of expert teachers in sport. Despite its link to both effective and expert instruction, the lesson closure has seen scarce attention as a topic of research and no studies have examined how successful teachers close their lessons.

Purpose: The purpose of this investigation was to examine the lesson closures of expert teachers. Specifically, the lesson closures of expert golf and tennis instructors were analyzed to trace features defining the anatomy of expert lesson closures, including (a) the amount of time experts took to close their lessons; (b) the order in which previously identified episodes of expert closures unfolded; and (c) the instructional content contained within each of these episodes.

Participants and setting: Twenty-one expert tennis instructors and 21 expert golf instructors (n = 42) were selected as participants for the study. Berliner’s criteria of teaching expertise were used to identify expert teachers. These included (a) 10 or more years of teaching experience; (b) Professional Tennis Registry (PTR) or Ladies Professional Golf Association (LPGA) certification; (c) formal recognition for quality instruction (e.g. National Teacher of the Year); and (d) peer and student recognition for outstanding teaching. The study was conducted in two different settings: PTR Headquarters on Hilton Head Island, SC, and the University of Georgia Golf Course.

Study design: The procedures selected for use in this study were primarily qualitative, given the study’s aim to examine and describe in depth certain features of the teaching process within the context of instructional expertise. The literature that informed these procedures included Berliner’s theoretical work on expertise in teaching, Baker, Schempp, Hardin and Clark’s study of the routines and rituals of expert golf instructors, and two seminal sourcebooks for qualitative inquiry and analysis by Denzin, and Huberman and Miles.

Data collection: Data for this study were drawn from two larger investigations of expert sport instruction, during which the instructors were videotaped teaching a 45-minute lesson to either one student in golf or four students in tennis.

Data analysis: The videotapes were analyzed for trends in the length, sequence, and content of the experts’ closures. An inductive analysis was used to organize and reduce the data, as well as to verify the accuracy of the findings with the original data set. To increase trustworthiness, two researchers well trained in qualitative methods analyzed the data to achieve investigator triangulation.

Findings: Closure lengths ranged between approximately 30 seconds and 10 minutes. A typical closure sequence unfolded through four phases: (a) initiating closure after a successful performance by the student; (b) teacher signals the lesson will close;
(c) review of the main points; and (d) teacher provides suggestions for further student practice. Certain expert behaviors emerged as trends in each closure phase, such as maintaining practice conditions late in the lesson to facilitate a successful student performance, using a succinct verbal signal to indicate the beginning of the closure, reviewing both lesson content and student performance, and offering relevant practice drills. Some of the experts’ behaviors served to augment descriptions of effective teaching from the classroom literature.

Conclusions: This study illustrates how some expert teachers add a finishing touch to their lessons and suggests an initial model for continuing research and developing practice related to the lesson closure in teaching. It is not clear from this study if novel characteristics of expert sport instruction were a function of the teachers’ expertise or of differences in context between classrooms with large groups of students and instructional settings with small groups of students or a single student. Future research should compare expert teaching across multiple contexts to better define instructional expertise as a global construct and establish clearer boundaries between effectiveness and expertise in teaching.

Keywords: expert teaching; lesson closure; sport instruction; effective teaching

Educators have long believed that the lesson closure is an essential component of effective teaching (Hirst and Bailey 1983; Hudgins and Cone 1992). The basis for this belief rests in the idea that, of all the different parts of a lesson, the end is what students will remember the most (Schempp 2003). Whether or not this is true, it is clear from research that what transpires in the final minutes of a lesson can have a significant impact on student learning (Cavanaugh and Heward 1996; Schorow 1990). Wolf and Supon (1994) explain that ‘Students’ participation in the closure process is critical to their assimilating and gaining a true understanding of the lesson’ (3). Bringing closure to a lesson is, therefore, a teaching task that deserves careful thought and execution.

Many recommendations for effectively closing a lesson have been forwarded (e.g. Blythe and Sweet 1998; Davies 2001; Schempp 2003; Siedentop and Tannehill 2000). For example, Siedentop and Tannehill (2000) suggest that an effective lesson closure should serve several functions: (a) making students aware of what was accomplished in the lesson; (b) highlighting student successes; (c) gauging students’ feelings about the lesson; (d) reviewing critical elements of the lesson; and (e) providing a transition time from the last activity to the lesson’s end. However, these guidelines and others have emerged from limited research. Exactly how effective teachers choose to conclude their lessons remains an empirically unanswered question.

While answering this question is important, Berliner (1986) pointed to another group of teachers whose instructional practices perhaps deserve our more immediate focus and attention. He recognized that some teachers perform at a level that distinguishes them from their contemporaries and proposed that these teachers be identified and studied as experts. The search for expert teachers and the study of expert teaching have since seen considerable development in theory and understanding of instructional expertise. A substantial body of literature now exists, which presents empirical evidence that expert teachers possess cognitive and behavioral characteristics that distinguish them from other teachers (e.g. Borko and Livingston 1989; Griffey and Housner 1991; Housner and Griffey 1985; Schempp et al. 2004). Most importantly, Berliner (2004) cited several recent studies confirming the long-held assertion that students of expert teachers in fact achieve more than students of non-expert teachers. Thus, to truly understand the closing practices of successful teachers, a more timely and relevant question may be ‘What constitutes the lesson closure of an expert teacher?’
One place expertise research has flourished is in the area of sport instruction (e.g. Baker et al. 1999; Bian 2003; Dorgo 2003; Fincher 1996; Smith 2004; Webster 2006; Woorons 2001). Expert teachers and coaches in baseball, tennis, golf, strength training, volleyball, and football have been studied. Most pertinent to the present investigation, Baker et al. studied expert golf instructors’ instructional routines and rituals and discovered that conducting a structured lesson closure was a common practice of the experts. The researchers also discovered that, while expert golf instructors utilized many of the same strategies and techniques reported in studies of effective teaching in school settings, these teachers also applied a number of unique instructional methods, which surfaced in the lesson opening, body, and closure.

For example, the instructors began their lessons with a routine set of questions to determine students’ athletic backgrounds, previous golf exposure, and health. The relevance of this information became apparent as the lesson unfolded and the teacher recruited her knowledge of the lesson to provide meaningful examples and guide instruction. In the lesson body, a tendency to physically position students into desired postures and swing patterns emerged in many of the experts’ instructional routines. Although researchers have discussed the importance of asking questions to check for student understanding and demonstrating to increase instructional clarity (e.g. Rink 2003; Rosenshine and Stevens 1986), no mention of either questioning for instructional guidance or demonstrating through physical positioning is made in the effective teaching literature.

The instructors studied by Baker et al. (1999) also routinely exhibited certain behaviors to close their lessons. These included (a) ending the lesson with a successful student performance; (b) signaling to students when the closure would begin; (c) reviewing the major points taught during the lesson; and (d) providing students with suggestions for future reference and practice. Again, several of these practices echo descriptions of effective teaching from the research (e.g. using signals, providing reviews), while others are a departure from that literature base (e.g. ending a lesson with a successful student performance).

Though some of these findings are unprecedented, they must be interpreted with caution. It would be premature to conclude that the types of instructional behaviors used by expert golf instructors are any different from those used by expert classroom teachers, as there is currently insufficient empirical support for this claim. What Baker et al. (1999) observed may only be unique in that the constraints regulating much of the teacher’s decision-making and instructional behaviors in classrooms with large groups of students were reduced or even absent in a one teacher to one student sport instruction setting. Differences in context, rather than level of effectiveness or expertise, would thus be at least partially credited for the novelty of instructional approach found among expert golf instructors.

 Nevertheless, Baker et al.’s study (1999) does point to specific behavior sets of expert golf instructors that can be used as a framework for further investigation of instructional expertise. Given the dearth of research on lesson closures, Baker et al.’s findings suggest that the study of expert teaching in sport presents a useful context for beginning to build a representation of this critical phase of a lesson. Such an endeavor may or may not serve to differentiate expertise from other forms of teaching, but it will surely showcase how some highly successful teachers put on the finishing touch to their instructional delivery.

The purpose of the present study, therefore, was to trace commonalities in the anatonomy of expert teachers’ lesson closures in tennis and golf. Specifically, the length, sequence, and content of lesson closures in both sports were identified. If providing a lesson closure aids in
student learning and is a routine practice of expert sport instructors then a closer analysis of well-constructed lesson closures is an important step to take toward improving sport instruction and defining expertise in teaching.

Method

Expert instructors

Purposive sampling (Patton 2002) was used to recruit participants for the study. Twenty-one expert male tennis instructors from the Professional Tennis Registry (PTR) and 21 expert female golf instructors from the Ladies Professional Golf Association (LPGA) were selected as participants for the study. Instructor selection was based on qualities identified by Berliner (1986, 1994) as characteristic of expert teachers, which were adapted to the context of this study. Selection criteria included: (a) 10 or more years of teaching experience; (b) PTR or LPGA certification; (c) formal recognition for the quality of their instruction (e.g. National Teacher of the Year); and (d) peer and student recognition for outstanding teaching. University approved informed consent was obtained from all participants before data collection.

Procedures

Data for this study were drawn from two larger investigations of expert sport instruction (Baker et al. 1999; Schempp et al. 2004; Schempp, Templeton, and Clark 1999; Schempp, You, and Clark 1999). In both those studies, the instructors were videotaped teaching a lesson approximately 45 minutes in length. A single VHS camcorder, placed at an optimal viewing angle (i.e. several feet behind the golf instructors or at one corner of the tennis court), was used to videotape each lesson and the instructors wore cordless microphones. The tennis instructors were videotaped on a tennis court at PTR Headquarters in Hilton Head, South Carolina and the golf instructors were videotaped at the driving range at the University of Georgia Golf Course.

Students were recruited to participate through advertisements. Golf students were all female, college-age students with no previous golf playing experience but who had participated in at least one high school varsity sport (to ensure some level of motor competency). Tennis students were experienced male and female tennis players who had attained between a 2.5 and a 3.5 United States Tennis Association (USTA) ranking. Thus, each group of students was relatively homogeneous, which helped to increase the level of consistency when comparing expert closures within groups. Variances in gender and skill level between groups was considered by the investigators to be a strength in the study design, given the intent of the study to identify common elements of expert lesson closures from two different instructional settings in sport. The incentive for student participation was that the lesson (in tennis or golf) was provided for free.

As much as possible, the researchers ensured that typical instructional conditions (e.g. number of students, available equipment and space) were reflected in the settings selected for study. For example, each golf instructor taught a single student, whereas each tennis instructor taught four students. These student–teacher ratios are common in each respective sport. As well, the golf instructors were told to teach the full swing from the tee, which is a common lesson focus in golf. However, the tennis instructors were not given specific guidelines to follow regarding what to teach, given that teaching doubles in tennis offers a much wider range of content than teaching the golf swing.
Data analysis

Data were analyzed in three steps, following inductive procedures recommended by Huberman and Miles (1994).

Step one

Two investigators individually watched all 42 tapes to identify the beginning and end of each lesson closure and to search for salient characteristics in the anatomy of each closure. The routines and rituals which Baker et al. (1999) found experts use when closing a lesson served as an organizational framework during this initial stage of the analysis. Therefore, each closure was reviewed in search of practices that related to one of four episodes: (a) ending on a successful student performance; (b) signaling the start of the closure; (c) reviewing the key points; and (d) offering drills for practice. Closure length (the length of time it took for an instructor to close a lesson), closure sequence (the order in which the four closure episodes transpired) and closure content (what the teacher said and did in each episode of the closure) were recorded for each lesson.

Step two

The investigators met to share and discuss their notes. First, the length of each closure was listed to identify the range of closure lengths and search for patterns. Second, a typical sequence of closure episodes was determined by comparing the order in which episodes were recorded in the investigators’ notes for each closure. Finally, behavior trends were identified in each phase of the typical closing sequence to further distill the characteristic elements of an expert lesson closure in sport.

Step three

The investigators rechecked their notes to verify the validity of their analysis. Findings related to closure length, sequence, and content were found to fit the original data.

Study design and trustworthiness

The methods discussed above are inherently qualitative and were selected to examine the nature of instruction within a well-circumscribed setting. Qualitative research methods are fitting for studies seeking to examine and describe phenomena as they occur in their natural setting (Patton 2002), as this study does. Rather than attempting to generalize the findings across instructional contexts, the investigators aimed to present a clear picture of expertly delivered lesson closures in tennis and golf that may or may not be telling of this task and its elements as they transpire in the lessons of teachers who teach other sports. The inherent benefit of this approach is twofold. First, a closer look at the definitive characteristics of expert lesson closures in tennis and golf should enable teachers of these sports to learn specific and relevant ways to improve their instruction. Second, a prototype model of lesson closures can be constructed as the identified characteristics in this study were evident over two sports (i.e. golf and tennis) and derived from 42 recognized experts.

To increase the level of trustworthiness (defined by Lincoln and Guba (1985) as the credibility, dependability, reliability, and confirmability of the procedures employed by the investigators), two investigators trained in qualitative research methods analyzed the data. Denzin (1978) termed this analytical method ‘investigator triangulation’ (297),
which serves to reduce potential investigator bias and strengthen the credibility (i.e., validity) and dependability (i.e., reliability) of the analysis.

Findings
Commonalities emerged across expert lesson closures in tennis and golf in terms of both sequence and content, but not with respect to closure length.

Closure length
The time it took for expert teachers in tennis and golf to close their lessons ranged between approximately 30 seconds and 10 minutes. No specific pattern could be identified in closure lengths within or between sports. Rather, each teacher seemed to close his or her lesson at a pace that fit the topic of the lesson and the needs of the student(s). For example, a tennis instructor who had taught a lesson on poaching (an aggressive volleying skill in doubles play) gathered his students near the net on the tennis court to review the key elements of the skill. Since poaching is performed at the net, the teacher was able to review the skill within a small space in a quick and efficient manner. Although he asked his students if they had questions during the closure, no students asked any. Hence, the closure lasted only two minutes.

Conversely, another tennis teacher, whose lesson had focused on offensive and defensive doubles strategy, needed the entire court to recap the main points from his lesson. Additionally, when he asked his students if they had questions, several questions were asked and he addressed these. The extra time it took for the teacher to move around the court as he demonstrated and reviewed strategic places to stand and move during a point, combined with the students’ questions and his responses, led to a six minute closure. The time necessary for a lesson closure appears, therefore, to be dependent upon a flexible set of factors such as sophistication of content, student response, and instructional space.

Closure sequence
Few variations were evident in comparing the sequence of lesson closures both within and between the two sports. This finding appears to suggest that expert instructors orchestrate lesson closures to achieve a sequential, cumulative effect. In general, four phases characterized the sequence of teacher behaviors in each closure: (a) the teacher observes a successful student performance; (b) the teacher signals the closure; (c) the teacher reviews the lesson; and (d) the teacher offers suggestions for student practice and skill enhancement.

For example, toward the end of the lesson, a golf teacher might ask her student to hit the ball toward a target 30 yards away from the practice tee. As soon as the student accomplishes this or comes very close, the teacher stops the lesson by signaling the end of the lesson/beginning of the closure. She could do this in a variety of ways, but whatever she says or does, the student understands a transition is being made and it is now time to reflect on what has been learned. A review of the lesson’s main points begins via the teacher’s questioning the student about what was taught, summarizing the lesson, or using some combination of both techniques. Finally, the teacher moves the student beyond the present to consider her golfing future. The teacher may suggest practice drills, encourage the student to practice, discuss the importance of practice for improvement, or even offer
the student special tips regarding technique or strategy that were not covered during the lesson. A visual portrayal of an expert closing sequence is presented in Figure 1.

**Closure content**

Trends emerged in the experts’ closing behaviors in each phase identified above (see Table 1). Table 2 presents examples of closing behaviors fitting each phase. A discussion of the trends that emerged in each closing phase is provided below.

<table>
<thead>
<tr>
<th>Successful ending</th>
<th>Closing signal</th>
<th>Review</th>
<th>Enhancement</th>
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</thead>
<tbody>
<tr>
<td>Maintain practice conditions late in lesson</td>
<td>Verbal commands to signal transition</td>
<td>Review lesson content</td>
<td>Offer drills designed for respective sport setting</td>
</tr>
<tr>
<td>Refrain from introducing new content late in lesson</td>
<td>Review student performance</td>
<td>Demonstrate and check for understanding</td>
<td>Encourage practice through providing explicit practice guidelines</td>
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<tr>
<td>A student hit a successful volley and the instructor yelled ‘Hero’ directly before closure (Tennis)</td>
<td>‘Come up here to the net. We’re going to wrap up what we did today’ (Tennis)</td>
<td>‘Tell me what you learned today. What steps did you take to learn that?’ (Golf)</td>
<td>An instructor suggested that the student practice making divots to increase the consistency of her swing patterns (Golf)</td>
</tr>
<tr>
<td>A student swung the golf club with the desired technique and the instructor exclaimed ‘Beautiful’ directly before closure (Golf)</td>
<td>‘Let’s pull together for a quick summary’ (Tennis)</td>
<td>An instructor asked his students questions in regard to key points made in the lesson, such as ‘What gives you power in the volley?’ (Tennis)</td>
<td>An instructor suggested that his students perform leg squats to pick up tennis balls as a way to work on tennis-related fitness (Tennis)</td>
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**Successful ending**

The experts began their closures directly after observing a successful student performance. To ensure their students ended the lesson on a positive note, the experts (a) maintained practice conditions and (b) refrained from introducing new content in the final minutes leading up to the closure.

As an example of maintaining practice conditions, one golf teacher directed her student to hit ‘just one more’ golf ball four times before she seemed satisfied that the student had successfully met the goal of the activity. The teacher then congratulated the student and signaled the beginning of the closure. Another golf teacher observed her novice student hit several decent shots and then strike the ball like a seasoned veteran. After that shot, the teacher ended the lesson with the exclamation, ‘I think we’re going to quit on that one!’ The final minutes of the experts’ lessons were reserved for student practice of skills and activities that were introduced earlier in the lesson. No new content was added during this time, which seemed to facilitate conditions for student success.

It is important to note that the experts in this study typically went beyond simply observing a successful student performance before transitioning into their closures. These teachers recognized students’ successful endings with enthusiasm and made it clear that they were proud of their students. This enthusiasm was portrayed either verbally or nonverbally. After his students completed a successful doubles play, a tennis teacher raised his palms in the air to ‘raise the roof’ and beckoned his students to do the same to celebrate their success. It should also be noted that if the teacher was unable to get the student to end the lesson with a successful performance, the student was given another chance to perform the same task during the closure, often with extra assistance and feedback from the teacher.

**Closing signal**

The experts frequently signaled to their students when it was time to begin the lesson closure. Closing signals consisted mainly of verbal commands to indicate the transition from lesson body to lesson closure. In most cases, a succinct verbal signal was given by the teacher in a brief and obvious manner to inform the student that it was time to end the lesson and make a transition into the closure. Signals were usually comprised of one or two short statements, such as ‘Okay, let’s review’ or ‘Let’s do four more hits, then review what we did’. Some teachers, however, signaled the close of a lesson in a more drawn-out fashion, either by conducting a series of culminating activities or by making statements that indicated the lesson’s end was approaching. For example, several minutes before the end of her lesson, a golf teacher indicated she wanted her student to hit at least one more successful shot before finishing the lesson.

**Review**

Reviewing the important points from a lesson is typically thought of as the primary purpose of a lesson closure. Indeed, the expert teachers in this study dedicated the majority of their closure time to this task. A single-best or preferred way to review a lesson was not apparent. Instead, a range of review strategies emerged that were categorized into two main types of reviews: (a) content; and (b) student performance.

Four separate approaches to reviewing lesson content were identified, including a chronological review, a review of the lesson’s key message, a review of the lesson’s main points, and a student-engendered review. In a chronological review, the activities
comprising the lesson were revisited from first to last and the most important information was identified and retrieved en route. For instance, a tennis teacher began his review by stating, ‘First thing we did: drop shot’, and then continued to trace the remainder of the lesson’s ‘journey’. Some teachers summed up the most important lesson content with a single statement, or key message, as was the case with a tennis teacher who initiated his review with the statement, ‘The key: working with your team’. Within this condensed message were embedded several main points from the lesson, such as how to communicate with a doubles partner and how to position oneself in relation to a teammate in a doubles match.

A review of the lesson’s main points generally consisted of either restating each main point from the lesson, followed by a short summary or discussion of each, or identifying and reviewing one main point at a time before moving on to the next one. Main point reviews were usually conducted verbally with demonstration, but a few teachers also wrote down the main points on note cards for the students to take home. Finally, several teachers employed what the authors chose to term a ‘student engendered’ review. In this review, the teacher would solicit questions from his or her students and then use the topics of inquiry as bridges to the main points covered in the lesson.

Some teachers focused their reviews less on subject matter and more on student performance. In these instances, the teacher recapitulated identified strengths and weaknesses in students’ performances during the lesson. The teacher would remind the student, through summarizing, questioning, and/or discussion, about individual feedback the student had received during the lesson concerning what to continue doing the same and also how to improve. This strategy was employed in both golf, with a one-to-one teacher–student ratio, and tennis, with a one-to-four teacher–student ratio. In tennis, this meant that each student received a personal review of his/her lesson performances during the closure. Regardless of the review strategy employed, every expert limited review content to no more than three easily remembered and recited ‘take home’ messages from the lesson.

In their reviews, the experts used two behaviors described as effective in research on teaching (e.g. Rosenshine and Stevens 1986) that deserve special attention due to their prominence in the literature. These included demonstrations and checks for understanding. Rarely did an expert teacher review a lesson, share drills, or encourage practice without also demonstrating how to do the different skills and activities. A common approach used by teachers in both sports was to first ask the student(s) to demonstrate a skill they had practiced during the lesson and then to provide a teacher demonstration to re-emphasize important aspects of the skill and touch on any cues missed in the student demonstration. Some teachers interspersed student only and teacher only demonstrations with a teacher-assisted student demonstration, where the teacher would physically guide the student’s movements or reposition the student into a desired stance or posture. Other teachers stood in front of or next to the student and demonstrated a skill with the student simultaneously. No matter what method or combination of methods the teachers employed to demonstrate during their closures, the result was always that students were given at least two, and usually three, modes of presentation from which to process and absorb closure content.

Another common review practice of the teachers in both sports was checking for student comprehension of covered content. The teachers asked their students questions that either directly or indirectly targeted what students learned from the lesson. Direct questions focused on specific elements of the lesson, such as the lesson’s main points or aspects of a skill or movement pattern that had been taught. For example, a tennis coach, who had
given a lesson on volleying and had stressed that the students step toward the ball during impact, asked his students ‘What gives you power in the volleys?’ Another tennis teacher checked to see if his students understood the main points from his lesson by having students finish his sentences during part of the closure.

Indirect understanding checks were delivered in the form of broader, often open-ended questions that gave the students a chance to share what they had learned. In golf, for example, a teacher said to her student, ‘Tell me what you learned today’. A tennis teacher used a slightly different approach, asking his students, ‘Out of what we did today, what helped you the most?’ In either case, the student(s) were required to share their interpretations of the lesson, thereby enabling the teacher to assess student learning and concurrently develop appropriate closure content. When using an indirect understanding check turned out to be an unsuccessful strategy for assessing student learning, the teachers would employ a direct understanding check as a substitute.

**Enhancement**

Finally, in closing a lesson, experts shared practice drills designed for either the respective sport setting (i.e. golf or tennis) or a setting external to the sport (e.g. hotel room, dormitory room, etc.). Many of the experts clearly possessed an extensive knowledge of practice drills, which they shared with their students. The drills they offered, whether in tennis or in golf, were virtually all different from one instructor to the next, even if the lesson content was the same. Practice drills were categorized as (a) traditional; or (b) nontraditional.

Traditional drills included activities and exercises requiring the use of golf/tennis equipment and/or a golf/tennis setting (e.g. golfing range or tennis court) for practice. These types of drills were often shared with students who indicated to the teacher that they owned or had access to such equipment and would likely go to a practice facility. Examples of traditional practice drills offered in golf were ‘clipping the tee’ (setting up several tees in a row, swinging through the first tee, then walking and swinging through the other tees one at a time without pausing) and repeatedly swinging the golf club like a baseball bat and gradually lowering the club head until it brushes the grass. In tennis, one teacher shared with his students a serving drill performed from the baseline on the tennis court, which involved aiming for a specific location within the designated service box on each serve.

Drills classified as nontraditional could be practiced without the sport-specific equipment or facilities required for practicing traditional drills. For example, the golf instructors offered practice drills to their beginning students that could be practiced without golf clubs in the students’ dorm rooms. One activity involved the student crossing her arms over her chest and rotating her shoulders and trunk to simulate the movement performed in a golf swing. Another teacher suggested that her student stand in front of a mirror and practice her pre-swing set-up and stance.

Several excellent examples of nontraditional practice drills surfaced in the tennis lessons, as well. During his closure, one teacher provided his students with a drill that he specified could be practiced at home or even when traveling. The drill, which is designed to simulate a serve, is performed by tossing one rolled up pair of socks into the air (i.e. the ball toss) and throwing a second rolled up pair of socks at the first (i.e. the serve). Another teacher presented a tennis-related fitness drill, which was to retrieve tennis balls from the court or pick up objects around the house while performing leg squats.

Some of the teachers went beyond simply sharing practice drills during their lesson closures and encouraged students to practice according to detailed instructions, which included
how to maximize practice sessions and achieve optimal performance results. To the authors, it seemed that in cases where teachers gave students more detailed practice plans, replete with demonstrations, the amount of time to practice, the number of practice trials to complete, the type of equipment to use, and so on, the teachers were also in fact encouraging their students to assume more responsibility for their skill development. As one tennis teacher put it to his students, ‘Practice is the key element for improvement’.

Although common closing elements between the two sports were far more prevalent, several distinctions also emerged that are worth noting, as they highlight several important contextual influences on closure content. The one-to-one instructional format in golf seemed to engender a more personal and relaxed learning environment than the one-to-four format in tennis. For example, a small sample of golf teachers offered personal guidance to their students, which generally consisted of words of wisdom to live by as a golfer. One teacher used her hands to construct an imaginary dome around her student, exclaiming, ‘I’m giving you ‘The Bubble’’, a metaphor she used in explaining that the student should ignore unsolicited advice about her golf game that would inevitably be generously dispensed whenever she was around other golfers. Another teacher told her student what clubs she should own, while yet another recommended to her student that she use ‘visuals’, or targets, every time she practices.

In tennis, it was interesting to note that while such guidance was not offered in the teachers’ lesson closures, most teachers chose to stick around after the lesson to chat with their students and address individual questions. Thus, it seems that a central tendency of the experts in this study was to include a way at the lesson’s end to share extra information with students on an individual level that was particularly relevant to the unique needs or concerns of each student.

Discussion
This study was the first to explore in depth the lesson closing practices of expert teachers. Extending the work of Baker et al. (1999), which provided a useful framework for analysis, and applying a contemporary and well-accepted model of expertise in teaching (Berliner 1986, 1994), the length, sequence, and content of experts’ closures were examined. By and large, closures in tennis and golf were found to share characteristics in sequence and content that suggest a general anatomy of an expert lesson closure. While a small number of distinctions were also noted in comparing closures from both sports, these distinctions were primarily associated with the different instructional formats used in teaching tennis and golf.

The amount of time experts reserved for closing their lessons seemed to depend on the characteristics of the subject matter and the student(s). Even in the golf lessons where there was relative consistency across the level of student experience and the topic being covered by the instructors, no patterns emerged that would suggest a typical expert closure length. This finding supports previous research on expert teaching highlighting the adaptive and flexible nature of experts’ instructional practices (Borko and Livingston 1989; Housner and Grifley 1985). Experts adjust their instructional routines to fit emerging student needs and other contingencies of the learning environment. In this study, the varying length of each closure appeared to reflect an awareness and concern on the part of the experts for the demands of the present context. Siedentop and Eldar (1989) have observed in expert behavior a ‘highly differentiated response repertoire’ (260), which seemed to be evident in the closing practices of the teachers in this study.
The sequence and content of an expert lesson closure are further indicative of the student-focused nature of expert teaching. Experts were determined to provide students with a venue where success could be achieved, remembered, and continued. Each expert found a way to conclude the lesson with a desired student performance, capitalized on student strengths and accomplishments, and offered drills that the student(s) could realistically practice. The findings suggest that students who have the privilege of taking a lesson from an expert are almost guaranteed some level of personalized instruction.

Experts tended to communicate with their students through coupled modes of instruction to ensure important messages were received. Through various types of demonstrations, checks for understanding, and reviews, the experts assembled a lesson closure that combined many of the elements necessary for effective instruction in school-based group settings (Brophy and Good 1986; Rink 2003). However, some teaching practices exhibited by expert golf and tennis instructors have no precedent in the effective teaching literature. Ending a lesson with a successful student performance and sharing drills with students are examples of practices routinely employed by the experts in this study, which are absent in the instructional repertoire of effective teachers, as documented in research from the classroom. These novel behaviors may be less indicative of expertise and more telling of some unique affordances of individual and small group sport instruction contexts.

With little data describing what expert teaching looks like in classrooms, gyms, and other large group contexts, it is too early to know whether the elements of expertise remain constant or in flux across the vast instructional landscape with all of its changing contours. Future investigations should compare expert teaching in different contexts to better understand how changes in the teacher–student ratio, the lesson content, and other contextual characteristics affect instructional behavior. Not only would such research help in defining expertise in teaching more globally, but it would also help in addressing questions concerning differences between expertise and effectiveness in teaching. There is some support for the idea that expertise and effectiveness in teaching are neither one in the same nor simply a difference in degree (Siedentop and Eldar 1989). In studying seven physical education teachers, Siedentop and Eldar concluded that expertise is not merely an extension of effectiveness, but rather a unique condition that ‘lies at the nexus of highly skilled teaching and mastery of a subject matter’ (257) and which can best be observed and understood in terms of teaching performance. Finding further evidence of this distinction should be a priority of those seeking to sensibly piece together a model of expertise as it relates to effective teaching.

At the same time, it is important to continue examining behavioral aspects of expert teaching, especially in relation to teacher effectiveness and student learning. A recent study found that expert and novice golf instructors communicate differently when teaching (Webster 2006), which suggests that teachers’ instructional behaviors do change with increasing expertise. A substantial body of work already supports the notion that the cognitive architecture associated with teaching performance appears and functions much differently for experts in comparison to novices (Borko and Livingston 1989; Housner and Griffey 1985; Schenpp et al. 1998; Webb et al. 2001). Do changes in teacher cognition with increasing expertise affect changes in instructional behaviors? Do experts’ instructional behaviors impact student learning to a greater extent than novices?

While answering these questions must wait, several implications for practitioners can be drawn from the findings reported in this study. First, it is clear that experts believe ending a lesson with student success is important. Teachers in any setting can work to facilitate end of lesson success for students by maintaining a focus on a task already introduced and refraining from changing that focus, except for purposes of review. Second, this study
reafirms what has already been shown in studies of effective classroom teaching, which is that teachers should establish and use clear signals for transitions (Doyle 1986). In a review of effective teaching research, Doyle stated that ‘...skilled managers marked the onset of transitions clearly, orchestrated transitions actively, and minimized the loss of momentum during these changes in activities’ (416).

Third, experts do not only close the lesson by bringing students’ attention to key teacher messages or important points during review. Student performance is also highlighted, presumably to encourage student reflection and instill feelings of personal accomplishment. By keying in on the learning experience, and not just the information covered, teachers can bring a more student-centered focus to the lesson, which students may find more personally rewarding and meaningful. Finally, although classroom teachers may not be able to assign individualized practice exercises for every student, communicating the importance of practice in making performance gains seemed to be a priority of the expert sport instructors in this study. The implication for any teacher is that students need to recognize how taking responsibility for their learning will enable them to succeed in the long term and throughout life.

Conclusion

The findings from this study indicate, more than anything else, that expert teachers do not fade or extinguish a lesson’s momentum when the time is nigh to wrap things up. Rather, these teachers make the most of every last moment to reach the lesson’s objectives, secure student learning, and prepare students for future success. This study points to some specific behaviors that expert teachers in tennis and golf find useful in effectively closing a lesson. It is not yet clear if these behaviors function in any way to distinguish expert from effective teaching or create more optimal conditions of student learning. However, based on previous work related to expertise in teaching (e.g. Housner and Griffey 1985; Shulman 1986), one could ostensibly argue that experts bring to the final minutes of a lesson an exceptional knowledge of their subject matter, students, and the task of teaching. Perhaps it is this knowledge that enables experts to uniquely infuse their lesson closures with meaningful content, solidifying and even extending the lesson’s purpose and messages in the mind of the student. If this were the case, and if the end of the lesson is what students remember the most, then it would really be no surprise that expert teachers are repeatedly so successful at helping students to learn.

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