

DEVELOPING NOVICE TEACHERS' ORAL-QUESTIONING SKILLS

EDWIN G. RALPH *University of Saskatchewan*

ABSTRACT. This study investigated the development of teacher-interns' ($n=70$) oral-questioning skills during their 16-week extended-practicum. Results indicated that although their initial skill-level of oral questioning was relatively high, they showed improvement over the period. The benefits of using a supervisory approach to enhance this development are described, and questions for further research are raised.

RÉSUMÉ. Cette étude porte sur le perfectionnement des techniques d'interrogation orale de professeurs stagiaires ($n=70$) au cours d'un stage pratique prolongé de 16 semaines. Les résultats révèlent que même si le niveau de leurs techniques initiales d'interrogation orale était déjà relativement élevé, il s'est amélioré au cours des 16 semaines. L'auteur décrit les avantages d'une méthode d'encadrement pour améliorer ces résultats et soulève des questions méritant des recherches plus fouillées.

The purpose of the extended-practicum program in teacher education has always been to provide neophyte teachers the opportunity to integrate practice with theory as they begin to construct their personal teaching repertoire (Berman, 1994; Dalzell, 1997). On their journey to becoming reflective experienced practitioners, they are expected to master – as are all inductee-members in any profession, occupation, or vocation – a body of basic knowledge and skills considered to be fundamental to their effectiveness in their field.

One of the key generic skills essential to proficient teaching is oral-questioning (Danielson, 1996; Hunkins, 1972). The purpose of this study was to report some findings consolidated from research conducted over a three-year period with several cohorts of teacher-interns and their classroom cooperating teachers (CCTs) regarding the development of these oral-questioning competencies among their teacher-interns.

RATIONALE

The content: "What are the skills being learned?"

Research on teachers' use of oral-questioning has shown that this skill is typically less effective than it could be (Anderson & Burns, 1989; Dantonio, 1990). Yet, proficient oral-questioning has been shown to enhance instructional effectiveness: it secures pupils' attention, increases students' motivation, engages their involvement, promotes their thinking, directs their interest, enhances their curiosity and creativity, and assists the teacher in classroom management (Borich, 1992; Lorber, 1996). Because of these benefits, organizers and leaders of extended-practicum programs typically include it within the essential instructional skills for teacher-interns to acquire (e.g., University of Saskatchewan, 1998-1999).

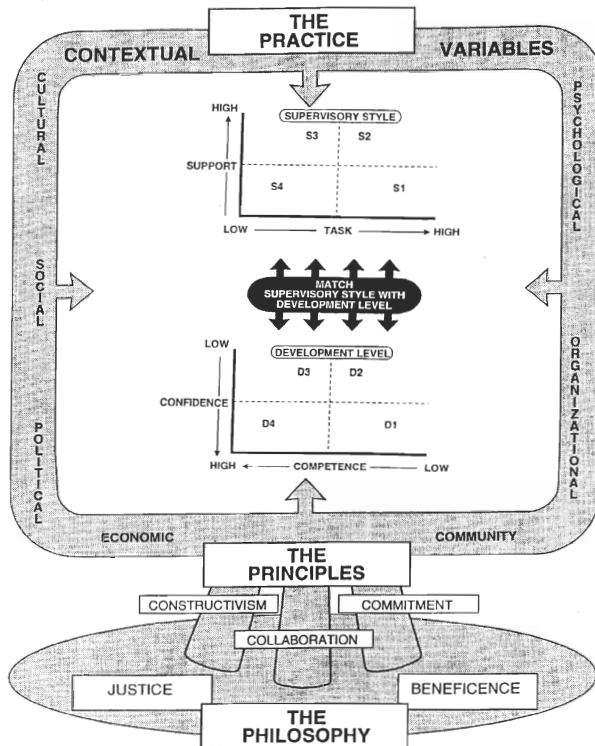


FIGURE 1. The Contextual Supervision Model. (reprinted with permission of *The Canadian Administrator*, 35(5), February, 1996, p. 2. Copyright 1996 by Edwin Ralph and *The Canadian Administrator*)

Based on a synthesis of the body of recent research literature on oral-questioning (e.g., Anderson & Burns, 1989; Chuska, 1995; Good & Brophy, 1997; Kauchak & Eggen, 1998), the Centre for School-Based Experiences where the present researcher works has developed and refined over the past several years the following grouping of sub-skills considered as basic in teachers' use of good oral-questioning: 1. to ask questions to gauge pupil understanding; 2. to pose clear, concise questions (free from six typical error-types); 3. to use a variety of "cognitive levels" of questions - based on Bloom's Taxonomy (see, for example, Borich, 1992); 4. to implement a pattern of directed questions with adequate wait-time (rather than patterns of "undirected" or "targeted" questions); and 5. to distribute oral questions equitably in a group.

The "process": How are the skills developed?

If one assumes that the above five research-supported skills comprise the "What?" (i.e., the content) element of essential oral-questioning for novice teachers, then what is the "How?" (i.e., the process) component, which would enable them to practice and to master these instructional techniques? One useful supervisory approach that answers this "How?" question is Contextual Supervision (CS). CS has been developed and refined over an 8-year period within the field of the supervision of extended-practicum programs in one teacher-education institution in Western Canada (see, for example, Ralph, 1998a). (See Figure 1).

The core of Contextual Supervision (originally derived from the Situational Leadership model developed by Hersey & Blanchard, 1988) is that the person in the supervisory role (i.e., any professional, who by virtue of their prior expertise and experience, is in a leadership, mentoring, or coaching position) must adjust his/her leadership style to meet the particular instructional needs of the individual in the supervisee position. The supervisee is at a particular developmental level with respect to a specific task or skill being learned. (In CS, the supervisee is any professional seeking to learn or improve a particular professional skill.)

In the CS model, the supervisory style consists of two leadership dimensions: 1. the "supportive" element (i.e., the "human" aspect, in which the supervisor initiates the provision for the supervisee of the needed degree of encouragement, acceptance, and positive rapport); and 2. the "task" aspect (i.e., the "technique" side of perfecting a skill, in which the supervisor initiates providing the learner with the needed degree of technical guidance, structure, and direction, in order to master the skill being practiced).

The supervisor determines the extent of his or her support and task responses, to be administered in a reciprocal fashion, according to the two corresponding dimensions of the supervisee's development level in performing the particular task. These two dimensions are the degree of confidence and of competence that the supervisee demonstrates in doing the task in question. For example, in the CS model if the supervisee exhibits a high level of confidence in oral-questioning, the supervisor correspondingly responds with a lower level of supportive behavior, than if the learner showed a lack of confidence – in which case, the supervisor would reciprocate by providing increased support and encouragement to bolster the learner's lagging assurance in the oral-questioning area.

At the same time, the supervisor would provide directive task-orientation in an inverse proportion to the extent of competence shown by the supervisee in performing the oral-questioning skills.

Thus, as reported in several previous CS studies (Ralph, 1996, 1998a, 1998b, 1998c, 1998d), the supervisors will adjust their leadership behavior to match the task-specific developmental needs of the learners – a process that logically would lead to the eventual elimination of the supervision function at a point when supervisees internalize the skill being practiced.

APPLYING CS. To help teacher-interns develop their oral-questioning skills, supervisors implement the CS approach in three key phases (Ralph, 1998a). First, they determine the learner's current development stage in actually performing the questioning tasks, in terms of his or her levels of confidence and competence in actually conducting questioning in their practicum teaching.

They do so in three main ways, one of which is through the formal observation of the teacher-interns' lessons. An essential component of the internship-program is to have the interns teach two formal lessons each day, for which they prepare two formal lesson plans according to the specific guidelines set out in the internship manual (University of Saskatchewan, 1998-1999). These guidelines include the writing down of the interns' key questions to be asked during the lesson.

For these formal lessons, the classroom cooperating teachers would observe the teaching-learning process and collect data on it, according to the classical clinical-supervision format. During the lesson's pre-conference the pair would have collaboratively selected the professional targets on which the teacher-intern wished to concentrate in

each lesson, and for which he or she wanted to receive specified supervisory feedback. The supervisor would then record observations regarding these areas, using agreed-upon data-collection instruments, charts, or schedules.

With respect to the oral-questioning function in the extended-practicum program in this study, the pairs would specifically begin to examine the interns' competence and confidence in applying the skills during the 5th or 6th week of the 16-week internship, after having studied the skills of questioning at the second (of three) day-long inservices conducted by the college-supervisor with a cohort of 10 to 15 pairs.

During the subsequent 5 or 6 weeks following this inservice, the interns would work specifically on their questioning skills in their formal lessons, and would thus have their supervisors collect data for them on how effectively and consistently the latter were implementing the five key questioning skills (identified above in the rationale sub-section).

For example, for several lessons during this 5-week period the supervisor would observe and record in writing how the interns demonstrated the following questioning skills: 1. To what extent were the key questions (which the intern was to have previously written on the formal lesson-plan) asked? 2. To what extent did their oral questions seek to determine the pupils' understanding? 3. Was there a general pattern of clear, concise questions? (How many questions reflected the six common errors: Indefinite? Multiple? Cue-clue? Rhetorical? Yes-no? or Run-on?) 4. How many questions, and which ones, fit into the "directed-type" with adequate wait-time (i.e., the teacher poses a "thinking-type" question, waits 3 to 5 seconds, then designates a student to respond)? How many, and which ones, were "targeted" (i.e., the teacher designates a student before asking the question)? or "undirected" (i.e., no student is designated, and any or all students answer)? 5. How many questions, and which ones, fit into the higher-cognitive and lower-cognitive order categories (i.e., questions requiring student thinking or those requiring mere recall)? and 6. How many questions, and which ones, were distributed equitably among all group-participants?

By collecting and sharing this type of data from the interns' formal lessons at week 5 in the internship, the pairs would be able to ascertain the interns' then-current development stage for oral-questioning – in terms of their initial competence and confidence levels in performing the skills.

Another way that supervisors may use to determine the teacher-interns' "entry-level" developmental stage for questioning is simply to talk

about it. Through informal conversation, professional dialogue, and the pre- and post-conferences (in which each supervisory pair would have been engaged during the previous 4 or 5 weeks leading up to "oral-questioning" inservice session), the supervisors would have gathered additional evidence about their interns' questioning abilities. Then, by combining all of this information with that gathered from their actual formal and informal observations of the interns' practice in their first month of teaching, the supervisory pairs would have clearly determined the interns' strengths and weaknesses in oral questioning – prior to beginning the intensive period of practice.

The second phase in applying the CS approach is that the supervisors would adjust their leadership style (i.e., their supportive and task responses) to match, respectively, and in reciprocal degrees, the dual developmental components exhibited by their supervisees. This matching process is depicted in the central portion of Figure 1, where S1 would correspond to D1, S2 with D2, and so on.

Thus, once the supervisors have ascertained the initial developmental stage of the interns in terms of their levels of competence and of confidence in applying the five questioning skills, the supervisors would then match, in a reciprocal fashion their corresponding leadership responses to meet the developmental needs of their supervisees for these skills. This means that the degree that supervisors would provide psycho-social support and encouragement for the interns would be inversely proportional to the interns' confidence level in performing the questioning skills. Likewise, the extent that the supervisors would provide task or directive responses (i.e., the technical or mechanical aspects of the questioning) would be inversely proportional to the interns' actual ability in conducting questioning in their formal lessons.

For example, if an intern demonstrated a relatively high level of confidence in attempting to engage in effective oral-questioning, but at the same time demonstrated a low level of competence by being unable to execute properly the five skills (that is, be at the D1 level), how would the supervisor respond?

Using the CS approach, the supervisors would match the interns' two aspects of development in reciprocal proportions, with the two corresponding dimensions comprising their own leadership style. To respond appropriately to the intern's high level of confidence, the supervisor would need to provide a low degree of human support and reinforcement, because the intern is already demonstrating a high level of self-

assurance; that is, he or she does not need to have his or her confidence bolstered.

Simultaneously, however, in order to meet the intern's developmental need reflected by his or her low competence in questioning, the supervisor would reciprocate with a high degree of task, directive, or "telling" behavior, in order to show the supervisee "what to do." In the CS model, this "low support-high task" response would be the S1 style. Here, the supervisor would concentrate on having the intern to engage in planning, in practicing, and in reflecting on the supervisory feedback as the pair would seek to enhance the intern's oral-questioning abilities.

To further illustrate how supervisors would implement this second phase of the CS model another typical scenario needs to be considered. For an intern who initially demonstrated low confidence but high competence in questioning (that is, a D3 level), the CS model would require the supervisor to reciprocate with a high support and a low task response (that is, an S4 style). The supervisor's high degree of interpersonal encouragement in this case would bolster the intern's lagging self-confidence; while the supervisor's low emphasis on task or directedness for the mechanical skills would be the required response, because the supervisee is functioning at a high skill level in questioning at that point in time. Individuals at this stage do not need to be told what to do or how to do it!

For the third phase of implementing the CS approach, supervisors would monitor their interns' progress in oral-questioning (using techniques of clinical supervision – i.e., observations, pre- and post-conferences, and provision of feedback on interns' performance), and continue to adjust their leadership style as required.

For example, as the interns continue to practice, to reflect upon, and to incorporate related supervisory feedback on their oral-questioning performance during the 5 or 6 week period between the second and third inservice sessions of the extended-practicum, they invariably demonstrate development in both their confidence and their competence levels in conducting effective instructional questioning. That is, they typically move from D1 and D2 levels to D3 and D4 levels.

As this steady improvement occurs, supervisors embracing the CS model would simultaneously respond with a reciprocal adjustment of their leadership style in order to meet their supervisees' changing professional needs by reciprocally moving from S1 and S2 to S3 and S4, as required.

With respect to the “supervisee confidence-supervisor support” relationship, the supervisors would gradually reduce the amount of social-emotional encouragement needed by the interns, because the latter exhibit increasingly higher levels of confidence in their oral-questioning skills from Week 5 to Week 11.

In like manner, and at the same time, with respect to the “supervisee competence-supervisor task” linkage, the supervisors will taper back on the extent of the telling or directive response required by the interns, in inverse proportion to the growing competence in questioning that interns demonstrate, as they gain experience in oral-questioning through their practice and receipt of feedback.

The findings emerging from the research on CS have shown that problems inevitably arise in the supervisory relationship when supervisors fail to make these reciprocal adjustments (see, for example, Ralph, 1996, 1998a). If their task and supportive orientations do not match the interns’ respective changing development levels of competence and confidence, in inversely proportional degrees as shown in Figure 1, then inappropriate supervision occurs. Inaccuracy, confusion, hard feelings, and resentment often result.

Moreover, the supervisory difficulties are typically misattributed to such factors as “personality clashes,” “incompatibility,” “stubbornness,” or “retrenchment” – rather than to the fact that supervisory personnel may have failed to perform their duties effectively. They mismatched their supervisory styles with their interns’ levels of development.

METHOD

Participants

Nine cohorts of pairs of teacher-interns and their CCTs ($n=70$ pairs), for whom the researcher was the college supervisor in their 16-week extended-practicum program, participated in the study. In 1994 he worked with three cohorts consisting of 7, 6, and 12 pairs, respectively; in 1995, two cohorts of 12 pairs each; in 1996, two cohorts of 16 and 7 pairs; and in 1997, two of 13 and 7 pairs, respectively. In this program, the college supervisors are assigned randomly to each cohort.

The teacher-interns were representative of the total group of 300+ students who graduate each year from our College of Education with a B.Ed. degree, in terms of: gender, age, cultural/ethnic background, university major, and type of school-placement (e.g., rural/urban, pub-

lic/Roman Catholic, and grade/subject taught). Similarly, the CCTs in this study were also representative of the 12,000 member teacher population in the province who volunteer to supervise interns, in terms of the above criteria.

Surveys and procedures

During the first week of the internship at the first of three full-day, internship workshops (which the researcher conducted with each cohort throughout their four-month practicum), he requested each intern to audio-record a formal lesson they would be teaching that contained oral-questioning. Prior to the second workshop held in the fifth week of the practicum, they were to write a script of their questions from this lesson and to bring the script to the second inservice session.

At that time, the researcher formally presented two key topics. The first was the questioning strategies for the internship, using the four-component professional development scheme (see, for example, Glatthorn, 1997; Showers, Joyce, & Bennett, 1987). This approach consisted of a presentation of a rationale for the use of questioning skills and a demonstration of them. This approach's second and third steps (i.e., the supervisees' practice of the skills and the supervisors' feedback comments on the interns' performance of these skills) were to be subsequently enacted by the pairs during the interns' classroom teaching. The second topic introduced by the researcher at the workshop was the Contextual Supervision model, the key practice of which, was described above.

Also, at this workshop (following the presentation of the two topics), each pair analyzed the intern's previously assigned questioning script according to the survey-items shown in the Appendix. At that time, after ensuring that the pairs were clear on the Contextual Supervisory process (of having the interns practice the subskills under the guidance of the CCT over the following few weeks) the researcher assigned the cohorts a second and similar questioning-analysis task that was to be conducted near the end of the internship period.

Thus, after practicing the oral-questioning skills in their unique classroom situations for several weeks, the interns were later to select a second lesson that also included their use of oral-questioning, and (under the supervision of the CCT) to follow the same procedures they had completed for the earlier one, namely: to audio-record the lesson, to write a script of their actual questions posed in the lesson, and to analyze the questions according to the outline shown in the Appendix.

TABLE 1. Improvement in teacher-interns' oral-questioning skills during the extended-practicum (n=70)

INTERNS' QUESTIONING BEHAVIOUR	MEAN RESULTS FROM A TAPED LESSON AT WEEK #:	
	5	11
1. a. Monitored student understanding	96%	100%
b. No. of questions asked in lesson	21.0	21.9
2. Asked clear/concise questions	89%	93%
3. No. of unclear questions asked:		
a. Indefinite	1.2	.4
b. Multiple	.9	.8
c. Run-on	.5	.3
d. Cue/clue/guessing	.6	.6
e. Yes/no type	3.1	1.2
f. Rhetorical	.48	.3
4. Asked variety of levels of questions	75%	93%
5. a. Used directed-question pattern	77%	83%
b. Allowed adequate wait-time (w.t.)	77%	78%
c. No. of seconds w.t. allowed	2.8	3.6
6. a. Distributed questions equitably	91%	95%
b. No. of students who were asked questions:		
i one question	10.4	12.3
ii two	3.6	4.7
iii three or more	2.3	2.4

NOTE. The above questioning behaviours correspond to the 17 questions (and the mean values of the responses) as summarized by the interns on their self-analyses of two audio-recorded lessons

All of these data from both of the surveys with all cohorts were collated and analyzed. An analysis of these data is presented in Table 1.

FINDINGS

General findings

An examination of the values shown in Table 1 indicates that, not surprisingly, an improvement in the interns' overall performance in their oral-questioning skills occurred. For 16 of the 17 items, the mean value at Week 11 was higher than it was for Week 5, although some sub-skills increased marginally (e.g., items 5.b. and 6.b.iii); and for item 3.d. no change was found.

For the six sub-parts of item 3 (i.e., the number of unclear questions asked), an improvement in interns' questioning performance was shown by reduced values at Week 11. This decrease indicates that the teacher-interns, as a cohort, asked fewer numbers of these types of unclear questions. For example, in the lesson taped at Week 5, they asked an

average number of 1.2 indefinite questions (e.g., questions beginning with "How about. . .?" or "What about. . .?"), while in the lesson taped at Week 11, the group asked a mean number of .4 of them.

An examination of the pairs of values for each item in Table 1 suggests that the initial performance of interns in oral-questioning was already relatively high at Week 5, but that their subsequent practice period between the two assessments seemed to help them "fine-tune" their skills – several of which increased only slightly.

Selected findings

Among the seventeen items reported in Table 1, the greatest improvement occurred in three key areas. First, the clarity and conciseness of interns' questions improved, as shown by an increase of 4% of interns doing so (see item 2), as well as by a reduction both in the number of indefinite type (item 3.a.) and of the type requiring "yes or no" responses from pupils (item 3.f.).

A second area of marked improvement occurred in the posing of questions that required various levels of cognitive processing by pupils before they could correctly respond. In item 4, it is evident that 18% more teacher-interns asked these types of questions at Week 11 than occurred at Week 5. Researchers (e.g., Gall, 1984; Paul, 1987; Wilen & Clegg, 1986) have repeatedly confirmed that individuals' reflective thought processes, their critical and creative cognition, and their problem-solving and decision-making abilities are stimulated when they must grapple in their learning activities with challenging questions, issues, and problems that require "deep" rather than "surface" thinking.

A third component of oral-questioning in which noted development occurred was in the teacher-interns' use of adequate wait-time before posing directed questions. Six percent more of the interns engaged in using a directed-question pattern by Week 11 than at Week 5 (item 5.a.); and, correspondingly, their mean wait-time increased by over half a second (item 5.c.). Previous research on teachers' oral-questioning has shown that the typical wait-time (after the teacher poses a question and before a student responds or is asked to respond) is only one-half to one second in duration (Rowe, 1986).

The researcher's own supervisory observations of each intern's teaching of at least four lessons during their 16-week practicum confirmed this finding. He noted in his written assessments of these lessons that by the end of the internship the majority of interns had increased their use of

directed questions with adequate wait-time; and also that several of them commented to him during the 4 months that this sub-skill was often directly related to the success of their classroom management. They reported that when they maintained an adherence to the use of appropriate wait-time before permitting or selecting students to answer, the number of unwanted student "call-outs" decreased.

Repeatedly, the researcher observed in his four supervisory visits with each pair that several interns' experiences in the actual routines of daily classroom life validated what previous research had reported regarding teachers' consistent use of directed questions (requiring higher-order student responses) with 3 to 5 seconds wait-time (Rowe, 1986; Cecil, 1995; Hunkins, 1989). These confirmed findings were: 1. the degree of learners' deeper thinking seemed to increase, 2. vocal pupils did not monopolize the discussion as much, 3. wider participation among class-members occurred, 4. random and group "call-outs" were reduced, 5. learners seemed to be willing to listen more to one another's input, 6. the number, length, the quality of students' responses generally increased, 7. students' confidence to respond seemed more evident, 8. learners' ability to ask questions improved, 9. pupil interest and motivation appeared to increase, and 10. several teachers reported an increase in their own instructional flexibility and sense of professional confidence.

Thus, both the survey data and the researcher's own supervisory observations of the 70 interns' teaching episodes indicated that the teacher-interns in the three cohorts developed and/or refined their oral-questioning competency during the 6-week period that the pairs concentrated on these skills.

DISCUSSION

Credibility of results

In order to minimize the risk of reaching unreliable and/or invalid conclusions from the data, the researcher introduced three safeguards into the data-gathering procedures. First, the interns completed both the pre- and post-intervention questioning scripts under the supervision of the CCT, thereby reducing the possibility of interns inflating the self-assessments of their performance of questioning skills.

He also "triangulated" the pairs' analysis of the interns' questioning behaviors during his own four "supervisory visits" with each pair (Lancy,

1993), in which he observed, analyzed and evaluated each intern's questioning performance in four distinct lessons taught by each intern throughout the internship.

A third means used to support the credibility of the study's findings was the implementation of Contextual Supervision (CS) as a supervisory approach requiring the CCTs to modify their leadership styles, sensitively and sensibly, according to the changing developmental levels of their supervisees' oral-questioning skills. During the cohort workshops and each pairs' four "triad" meetings with the college supervisor throughout the practicum, the researcher (as the college-supervisor member of the triad) emphasized this reciprocal matching process. Thus, because the CCTs in this study were applying the CS approach is assisting their interns to develop their instructional skills (including that of oral-questioning), they were obligated to pay close attention to the careful monitoring not only of their supervisees' skill-specific development levels, but also to the reciprocal adjustment of their own supervisory responses to meet these varying needs as described earlier in this report.

Implications

The primary purpose of this study was not to investigate the actual operation of the CS approach (i.e., the "process" component) in developing interns' questioning competency. (This aspect of the study has been reported elsewhere: see Ralph, 1998b, 1998d). Rather, because of space/length limitations, the present paper focused on the "content" aspect of the oral-questioning skills, themselves. In this regard, the study provided evidence that the teacher-interns in the three cohorts, taken as a whole, developed their expertise in these six basic oral-questioning skills.

Because of learning and applying this "content", the interns in this study experienced several instructional benefits in their classroom teaching – as observed by the researcher during his approximately 280 supervisory visits with all of the pairs. Moreover, these observations verify previous findings reported in the research literature on teacher questioning (see, for example, Good & Brophy, 1997; Kauchak & Eggen, 1998; Ralph, 1998c; University of Saskatchewan, 1998-1999). A key implication arising from this verification process is that these benefits accrue to teachers who consistently practice effective questioning in their classroom teaching; and five of these benefits are:

1. By increasing their implementation of oral-questioning to monitor students' understanding, teachers improve their ability in being able to

detect how students think, where possible misconceptions lie in their thinking, and what attitudes and beliefs about the subject that they have. As a consequence, these teachers are better able to plan and modify subsequent learning activities for their students.

2. By improving the clarity and conciseness of their oral questions (i.e., by avoiding the six error-patterns shown in #3 in the Appendix), teachers and students gain because there is: 1. less teacher talk (required by re-phrasing, clarifying, or posing a follow-up question); 2. less time wasted, as a consequence; and 3. less opportunity for classroom management problems to arise due to the slowdown caused by communicative ambiguity and unproductive time.

3. By improving their skill in posing a variety of both high- and low-order questions – according to the instructional context (e.g., the subject, the students, and the lesson's objective) teachers become proficient at simultaneously: 1. stimulating students' creative and/or critical thinking; 2. challenging their ideas and beliefs; 3. providing support and reinforcement for certain student responses; 4. sequencing a series of questions leading to a prescribed instructional goal; and 5. tailoring classroom interaction to meet the diversity of learning backgrounds present within a typical group of students.

4. By increasing their use of directed-questions with adequate wait-time, in which: 1. the teacher asks a question to the whole group, 2. pauses for 3 to 5 seconds, and 3. names a particular student to respond, teachers experience at least five benefits. They are that: 1. all students must think about the answer (and have time to do so); 2. all students become more attentive because anyone may be selected to respond; 3. classroom management is enhanced because the typical "vocal" students do not monopolize the interaction, since the teacher – not the students – decides who will respond; 4. teachers can momentarily "pause for a breath" as they scan the group before selecting a possible respondent; and 5. the quality and quantity of students' responses (and their own questions) increases.

5. By distributing their oral questions more equitably among class-members, teachers are increasingly able to: 1. reduce the tendency of the more verbal students to dominate class discussion; 2. involve more students (including the reticent ones) in the learning process; and 3. generally stimulate and maintain student attention, interest, and motivation in learning.

One clear implication of these findings for teacher educators and practicum organizers is that they should seek to promote the development of oral-questioning skills among the student-teachers under their jurisdictions. A second implication derived from this study is that the CS model appears to be an effective supervisory vehicle for promoting this instructional growth.

Moreover, previous research on the effectiveness of the CS approach in enhancing teachers' professional development has yielded three key findings: 1. it sharpens participants' conceptualization of the entire supervisory process; 2. it resonates with pairs' intuitive and practical knowledge about sensible professional interaction; and 3. it displaces the "one best way" approach for professional development, allowing the context of situation to shape the supervisory process (see, for example, Ralph, 1994, 1995, 1996).

Some lingering questions

Although the overall results of this study indicate that the teacher-interns did improve their basic questioning competencies, there are at least three questions about the findings that need further investigation.

One question is, "Why were the initial Week 5 results relatively high in the first place?" One possible explanation is that the interns in all cohorts had been previously exposed to oral-questioning skills in several other parts of their B.Ed. program (i.e., one previous compulsory course in generic instructional methods; two or three earlier microteaching assignments; at least one student-teaching placement of two or three weeks duration; and the likelihood that other professors in various methods classes may have stressed questioning).

A second explanation may be that the interns had also received preliminary experience with some of the oral-questioning knowledge during the first internship in-service day (held the first week of the practicum), when the researcher had formally presented to each of the three cohorts the critical link between teachers' use of a directed-questioning pattern (with adequate wait-time) and effective classroom management (see, for example, Ralph, 1995).

A third factor that could account for the elevated initial performance levels may lie with the "demand effects" that psychologists have identified as characterizing the behavior of subjects who participate in "publicly observable" studies (Buskist & Gerbing, 1990, p. 41). How-

ever, to help eliminate these factors that may have caused the teacher-interns to behave in a manner desired by the supervisors (e.g., the "Hawthorne Effect", Woolfolk, 1987), the researcher implemented the triangulation procedure mentioned above. Yet, a question of more long-lasting significance remains: "To what extent will these oral-questioning skills demonstrated by the subjects over a 5 or 6 week period be retained in their subsequent teaching repertoire over time?" Longitudinal research would be required to examine this retention by these teachers as they continue their teaching career.

A second related question that emerges from an investigation of the data in Table 1 is: "Why was there not more dramatic growth shown in the interns' performance in all of the sub-skills?" Although the three areas of greatest growth have been addressed in a previous section of this report, what factors might explain the relatively small increments for several of the items? For some of these sub-skills (e.g., asking questions to monitor student understanding; the total number of questions asked; asking relatively clear questions; distributing questions equitably; and selecting the same students to answer a number of questions), the interns' performance seemed to have already been at a competent level: substantial further improvement was not necessarily required or to be expected.

For other items such as avoiding unclear questions (e.g., multiple, run-on, cue-clue type or rhetorical types) both of the mean values (at Week 5 and 11) were already relatively low – i.e., less than one question per lesson. Thus, many of the interns had already seemed to have learned some of the basic procedures of good questioning prior to the taping and analysis of their two lessons. That is, by Week 5 of the practicum, they had experienced considerable exposure to the theory, to the research, and to at least some of the practice of effective questioning via their previous university education and their then-recent one-month of internship teaching. Thus, they already had developed a certain degree of competence and confidence in the skills.

A third question emerging from this study (but addressed specifically in a second report: see Ralph, 1998b, 1998d) involves the use of the "Contextual Supervision" (CS) approach during the practicum: "If CS is as effective as its proponents claim (see, for example, Ralph, 1998a) in the equipping of supervisory personnel to enhance their protégés' professional development, why then was not more improvement shown by the interns in those low-growth sub-skills?"

Developing Novice Teachers' Oral-Questioning Skills

The researcher, as the developer of and advocate for CS, is seeking further answers to these questions, and he desires to incorporate emerging solutions in the continued refinement of the CS model, in order that professional growth of *all* participants in the supervisory process at all levels may be enhanced.

It is true that each supervisee must accept the responsibility for his or her own professional progress. Nevertheless, this responsibility must also be shared by those in supervisory positions. In the final analysis, the onus is ultimately on those in the supervisory role both to motivate and to nurture novice practitioners to pursue skill improvement in their teaching – including that of oral-questioning. To strive for less will short-circuit the professional development process for novice teachers.

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APPENDIX

SELF-EVALUATION OF ORAL QUESTIONING

	Name	_____
	Date	_____
	Lesson	_____
	Number of Students	_____
1. a.	Did you ask oral questions to monitor student understanding?	YES NO
	b. How many were asked? _____ in total.	
2.	Were the questions that you asked generally clear and concise?	YES NO
3.	If "no" (in #2), how many of the 6 error-types, below, were observed? (Some may be classified in more than one category.)	
	a. Indefinite (Incomplete, Fragmented)	_____
	b. Multiple	_____
	c. Run-on (Interrupted)	_____
	d. Cue/Clue/Guessing	_____
	e. Yes/No	_____
	F. Rhetorical	_____
4.	Did you ask a variety of levels of questions?	YES NO
5. a.	Did you use a directed-questioning pattern(at least 70%)	YES NO
	b. Did you generally allow adequate wait-time?	YES NO
	c. What was your average number of seconds?	_____
6. a.	Did you distribute the questions equitably among students?	YES NO
	b. How many students answered at least one question?	_____
	Two?	_____
	More than two?	_____

EDWIN G. RALPH is Professor in the Department of Curriculum Studies, College of Education, at the University of Saskatchewan. He is involved in teacher development and in the supervision of instruction, K-16.

EDWIN G. RALPH est professeur au département d'études sur les programmes au College of Education de l'Université de la Saskatchewan. Il s'occupe de perfectionnement des professeurs et d'encadrement de l'enseignement du niveau préscolaire jusqu'à la 16^e année.