

STUDENT TEACHERS' TALK DURING TEACHING PRACTICE: IMPACT AND IMPLICATIONS

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Abstract: The study examines patterns of student teachers' talk during teaching practice. The findings suggest that cooperating teachers (CTs) are the ones with whom student teachers had most conversations during teaching practice. In this study, the CTs gave an average of almost 400 minutes of their time to each student teacher over the nine-week teaching practice, about 45 minutes each week. The student teachers spent the least time talking to their university supervisors and school principals. The student teachers posted to a school on their own seemed to be particularly disadvantaged by not having the second most important avenue for conversations, i.e. fellow student teachers. The student teachers who participated in a weekly videoconference accumulated more minutes of talk and reported more positive teaching practice experience than those who had no videoconferences.

Keywords: teacher education, teaching practice, conversational learning, videoconferencing, teacher discourse.

Conceptual Framework

Talk during student teaching is a central component in teacher reflectivity (Moore, 1998; Sprinthall, Reiman & Thies-Sprinthall, 1996; Zeichner & Liston, 1996). It is part of a process of continuously monitoring, critically analysing and improving the practice of teaching. Reflection, as defined by Dewey (1933), is "turning a subject over in the mind and giving it serious and consecutive consideration," and it enables us "to act in a deliberate and intentional fashion" (p.3). The ability to reflect is often regarded as an important attribute of an effective teacher (Borko, Michalec, Timmons & Siddle, 1997; O'Donoghue & Brooker, 1996; Posner, 1996). Reflection is needed to transform a person from a novice to an expert (Butler, 1996), and novice teachers can reflect and be helped to learn the value of reflection in teaching and learning (Pultorak, 1993; Rudney & Guillaume, 1990).

Conversational learning theorists regard learning as a reflective dialogical practice (Cunliffe, 2002; Shotter, 1993). In an attempt to make sense of experience, individuals learn not only via internal but also external dialogue. Through internal reflective dialogue, individuals construct self-managed, meaningful and personal learning. At this level, reflective skills are used in a conversational way to come up with new models of personal understanding. This may involve "reflection-in-action" (Schön, 1987). Through external reflective dialogue, individuals share knowledge with others and meaning is socially negotiated (Vygotsky, 1978).

Social interaction has always been a defining characteristic of education, training, and learning (LaPointe & Gunawardena, 2004). Pask (1975) argues that learning occurs through conversations about a subject by making knowledge explicit. According to Pask (1975), these conversations can be general discussion, focused on a subject, or talk about learning itself. As social beings, learners can connect tacit knowing and explicit knowledge by means of engaging in interactive dialogues. Meaning is mediated and negotiated via social networks and group learning environments. Conversationalists can be reflective thinkers who construct their understanding and learn also from social interaction within specific socio-cultural

settings. Student teachers can learn in a reflective practicum in which they learn through interacting with someone who assumes the role of a coach (Schön, 1987).

Background of the Study

At Singapore's National Institute of Education, teaching practice (TP) is organised under a partnership model in which schools take the major responsibility of supervising student teachers' day-to-day operation. Coordinated by a school cooperating mentor (SCM), the school principal and cooperating teachers (CTs) work as a team with university supervisors to mentor student teachers. Usually, university supervisors observe only two lessons of each student teacher. Before each observation, there would be a conference between university supervisor and student teacher, which is generally of short duration and concentrates on relatively low-level factual and prudential discourse (Sharpe, Moo, Crawford & Gopinathan, 1994).

As talk during student teaching is a central component in teacher reflectivity, student teachers are encouraged to engage in active discourse with school personnel and fellow student teachers. With an average of 11 hours of teaching per week, student teachers should have ample time for conversations with other teachers in their teaching practice (TP) schools. How much time do they actually spend talking to other school personnel on matters related to their teaching? Whom do they talk to the most and least? What do they talk about? With a research grant from the Ministry of Education, Singapore, some student teachers were able to have weekly videoconferences with a university supervisor and peers doing teaching practice in other schools. Would the participation in weekly videoconferences increase the amount of talk/discussion among student teachers and thus enhance their teaching practice experience?

Methodology

Participants

Forty-four student teachers from the Post Graduate Diploma of Education (PGDE) Primary Programme were invited to keep daily logs during their nine-week teaching practice. PGDE is a one-year programme for degree holders to obtain a teacher diploma. Of the 44 student teachers, 20 participated the videoconferencing project mentioned above. For the purpose of discussion, these students are referred as the MDVC group and the rest as the Normal group.

Instruments and Procedures

A log was designed for the student teachers to record the conversations that they had each day during the nine-week teaching practice (Appendix 1). Each student teacher was given nine sets of logs together with nine stamped/addressed envelopes, one for each week of the teaching practice. The participants were required to note down each person they talked to during the day, what they had talked about, whether they had found it useful, the modes used (face-to-face or over telephone) and an estimated duration (in minutes) of each conversation. To facilitate a fair comparison of the MDVC and Normal groups, the MDVC student teachers were instructed not to record the conversations that occurred during their weekly videoconference.

All the participants were briefed on the log two days before the teaching practice began. They were told that the aim of the exercise was to collect basic data on student teacher talk during teaching practice because such information was unavailable at the institution. The benefit to the student teachers themselves was stressed, namely that completing the logs

would help them to reflect systematically on their teaching experience and would help them to develop professionally. The researchers emphasised that they were well aware of the difficulties the student teachers might find in filling in logs when other activities competed for their time. They were advised to develop a routine and remember that accurate recall would diminish if they left logs to accumulate over a few days before completing them.

Once a week, the student teachers in the MDVC group had a videoconference with their peers in other schools and a university faculty member who was also the researcher. Each conference group consisted of up to five participants at five schools. Each conference was scheduled for an hour and a half, of which the first 10 minutes were usually spent adjusting the system followed by an hour's discussion on pre-arranged topics. The last 15 minutes of the conference were used for agenda-free conversations among the student teachers and the university faculty member would log off at this time. Such an arrangement enabled the student teachers to have some casual conversations without the presence of a faculty member.

The first conference was used for ice breaking activities. The student teachers took this opportunity to get to know one another. It was at this initial meeting that the university faculty member introduced some protocols necessary for successful video conferences, such as raising a thumb to mean "I can hear you loud and clear" and thumbs down to mean "I cannot hear you". Also, at this session, the participants refreshed their knowledge of the videoconferencing software that they had learned previously.

Once the participants became comfortable with talking into the microphone and seeing themselves on the screen, the focus of the conferences shifted to teaching related issues. The issues in discussion included expected teacher competencies, such as planning and developing lessons, communicating with students, and managing student behaviours. In these sessions, the participants shared ideas and experiences. As for the student teachers in the Normal group, they underwent their nine-week teaching practice as per normal.

A questionnaire (Appendix 2) was designed and administered to all the student teachers two days before the teaching practice (TP) and again two days after the TP. The pre and post questionnaires were identical except the tenses used were different. The questionnaire was designed to measure the student teachers' perceptions in two dimensions (1) teaching practice experience and (2) self perceived competencies in teaching.

Data Analysis

After eliminating the blank logs returned by the student teachers, data collected from 18 MDVC and 20 Normal student teachers were used for analysis. Frequency counts were made of the number of minutes that the student teachers spent talking to various people. The student teachers' entries into the logs were categorised into 15 topics according to the nature of the conversations.

All the 20 student teachers of the MDVC group and 15 of the Normal group completed the pre-and post questionnaire anonymously. SPSS was use for analysis.

Results

Time Spent on Talk

Table 1 shows the total time in minutes that the participants had in conversations with various people over the nine-week teaching practice. The first row indicates the total number of minutes conversing to a particular group of people, and the numbers in parenthesis indicate the average number of minutes spent by each student teacher.

Table 1
Minutes of Talk by Student Teachers to Various People

<i>Persons Talked to</i>	<i>Week 1</i>	<i>Week 2</i>	<i>Week 3</i>	<i>Week 4</i>	<i>Week 5</i>	<i>Week 6</i>	<i>Week 7</i>	<i>Week 8</i>	<i>Week 9</i>	<i>Total Minutes</i>
Cooperating Teachers	3014 (79.3)	2124 (57.4)	1595 (49.8)	1730 (46.8)	1341 (39.4)	962 (26.7)	1411 (39.2)	914 (28.6)	761 (25.5)	13852 (392.6)
Student Teachers in the TP school	2452* (81.7)	1300* (44.8)	830* (34.6)	1005* (34.7)	760* (29.2)	1110* (39.6)	740* (26.4)	865* (36.0)	545* (24.8)	9607* (351.8)
Other Teachers in the TP School	940 (24.7)	627 (16.9)	431 (13.5)	327 (8.0)	277 (8.1)	335 (9.3)	400 (11.1)	450 (14.1)	596 (19.9)	4383 (126.5)
Student Teachers in Other Schools	1207 (31.8)	503 (13.6)	330 (10.3)	315 (8.5)	445 (13.1)	117 (3.3)	200 (5.6)	273 (8.5)	110 (3.7)	3500 (98.3)
School Coordinating Mentor	714 (18.8)	317 (8.6)	275 (8.6)	219 (5.9)	235 (6.9)	404 (11.2)	172 (4.8)	370 (11.6)	320 (10.7)	3026 (87.0)
University Supervisor	226 (5.9)	358 (9.7)	299 (9.3)	357 (9.6)	345 (10.1)	245 (6.8)	21 (0.6)	181 (5.7)	165 (5.5)	2197 (63.3)
Principal Vice Principal	776 (20.4)	128 (3.5)	52 (1.6)	75 (2.0)	40 (1.2)	118 (3.3)	393 (10.9)	262 (8.2)	339 (11.3)	2183 (62.4)

* The student teachers who were posted to a school on their own were excluded.

It can be seen that the student teachers spent more time talking to their CTs than any others during the nine-week teaching practice, averaging 392.6 minutes for each student teacher (about 43.7 minutes per week). They talked more during the first week of the TP (79.3 minutes). The amount of talk declined over the nine weeks and decreased to 25.5 minutes in the last week of the teaching practice.

Eight student teachers were posted to schools on their own, and therefore had no fellow student teachers within their TP schools to talk to. Except for these eight student teachers, fellow student teachers were the second most important partners for conversations, and peer interaction appears to be most frequent during the first week of the TP. Apparently, those who were posted to a school on their own were disadvantaged for not having a peer to talk to.

The next two groups of people with whom the student teachers talked most were other teachers in the TP schools and fellow student teachers posted in other schools. In comparison, the student teachers spent much less time talking to school cooperating mentors, principals/vice principals and university supervisors. During the entire nine-week student teaching period, they spent about 87 minutes talking to their school cooperating mentors (about 9.6 minutes per week); 63 minutes talking to their university supervisors (about 7 minutes per week); and 62 minutes talking to principals and/or vice principals (about 6.8 minutes per week).

As can be seen from Table 1, there was a marked overall decline in the amount of discourse over the nine weeks. The average time spent talking to school personnel and fellow student teachers during the first week was two and a half times that spent in the last week. One exception to this general pattern was the amount of time spent talking to other teachers in the school, which fell off in the middle of the TP, but built up again towards the end.

What the Student Teachers Talked about

The entries of the daily log were coded and organized into 15 topics according to the reported nature of the conversations. Each entry of a conversation is counted as one

occurrence. Table 2 shows the 15 topics of the conversations presented in the order of total occurrences in the conversations.

Table 2
What the Student Teachers Talked about?

	Topics	Occurrences
1	Classroom Management and Discipline	505
2	Teaching Methods	456
3	Lesson Planning	371
4	Teaching Practice Administration	298
5	General Feedback on Lesson Observation	276
6	School Administration	269
7	Teaching Resources	193
8	Professional Matters	168
9	Teaching Content	146
10	Assessment of Pupils	123
11	Self/Affective Matters	115
12	Casual Talk	81
13	University Assignment	62
14	School In General	49
15	Student Teachers' Observations of CTs' lessons	46

It is clear that the most frequent topic of conversations was classroom management and discipline, followed by teaching methods, lesson planning, TP administration related issues and feedback on the student teachers' lessons. Nonetheless, it is encouraging to see that discussions on professional development related matters also took place frequently.

Comparison of the MDVC and Normal Groups in Perceived TP Experience

While in the talk logs the Normal group reported an average of 723 minutes talk during the nine-week teaching practice, the MDVC group reported 1,369 minutes (excluding the weekly 90-minute videoconferences). Did the amount of talk make any difference to the student teachers' TP experiences? The result of independent T-tests on the pre and post TP questionnaires revealed that the amount of time spent on talk appeared to affect the perceived collegiality experienced during the teaching practice and student teachers' overall evaluation of the TP experience, but not any other aspects of the TP experience. On the whole, the MDVC group felt more strongly than the Normal group that their TP had provided them with opportunities for collaborative learning and helped them to develop positive attitudes towards discussing problems. Of the 23 items measuring collegiality experienced and overall evaluation of the TP experience, the MDVC group had higher means in 17 in the post TP questionnaire, of which significant differences were found in nine items ($p < 0.05$).

Discussion

The analysis of student teachers' talk logs reveals that student teachers spent an average of approximately two hours per week talking to other people. The talk was at its highest during the first week of the teaching practice, but tailed off over the nine weeks. Unsurprisingly, the CT was the person whom the student teachers spoke to the most and about more topics, whilst the university supervisor and school principals/vice principals were the persons spoken to the least.

The most frequent topics of conversation were about classroom management and discipline, lesson planning, teaching methods, administrative matters, resources and general feedback on lessons. CTs and fellow student teachers were the locus of most of these exchanges. When it came to more personal matters, however, student teachers tended to confide in their peers, rather than their CTs. Other teachers were also, surprisingly, a main source of consultation about the teaching profession related matters, such as on-job professional development, promotion exercises, etc..

According to Pask (1975), learning occurs through conversations about a subject by making knowledge explicit. Interactions with peers and school personnel created opportunities for learning by student teachers, and enabled them to use conversation as a medium to generate practical wisdom, reasoning, and disciplinary understanding (Feldman, 2002) that they would not, or could not, generate on their own (Shulman, 1989). Conversations helped student teachers to reflect on shared personal concerns, to ask questions and to seek answers from others, and discussion becomes a vehicle for articulating, examining and changing beliefs (Schecht & Parkhurst, 1993).

There are undoubtedly problems in attempting to draw precise conclusions from the data obtained from a small sample study such as this one. Lack of specific evidence, it is problematic to correlate the amount of talk with the quality of the student teachers' reflection. Ten minutes of talk with one person might be worth one hour's of talk with another, for example. Nevertheless, even if the results of the pre and post questionnaires are treated only as a rough guide to the reality, two noticeable phenomena were observed.

First, although CTs are student teachers' main source of consultation, fellow student teachers and other teachers are important members of conversation groups during teaching practice. Conversation groups, according to Clark (2001), in the best of circumstances, become a social context for doing the work of reflective practice, and authentic conversations make sense of and articulate our own experiences, implicit theories, hopes, and fears in the intellectual and emotional company of others whom we trust. Student teachers' discursive dialogical aspect of learning is obviously realised through emotional support from peers. School management should recognise this reality and promote constructive discourses between every teacher in its school and student teachers. In other words, instead of having just a few individual CTs involved, a whole-school approach may be considered for mentoring of a young generation of teachers.

Secondly, focused discussions on specific and teaching related topics, such as those experienced by the MDVC group, provided the student teachers with opportunities for structured reflection. Reflecting on their experiences in dialogue with peers, student teachers are able to learn through interactive discourses in an encouraging social context (McKee, 2003). The amount of talk, both face-to-face and via videoconferences, in turn may lead to a positive feeling about the collegiality grown out the teaching practice experiences. The findings of this study confirm the promising role that technology can play in teacher professional development, and the importance of talk and learning community.

Conclusion

Talking is a vehicle to learning, and learning more about talking will change the way we view learning, teaching, and working with one another (Gilles & Pierce, 2003). Conversations provide access to sources of ideas, materials, feedback, solace and encouragement crucial for both survival in the classroom and professional growth. The impact of conversations on student teachers' TP experience is evident from the comparison of MDVC and Normal groups. The implication drawn from this study could be that the amount

of talk during teaching practice may help create more positive feeling towards collegiality among student teachers. For this reason, we should encourage student teachers to embark on the challenging yet rewarding journeys in which they share and reflect on their own talking-to-learn experiences (Gilles & Pierce, 2003).

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Appendix 1

Talk Log

We are interested in finding out about the kinds of discussions that student teachers have on Teaching Practice outside of their normal class contact time. Please take time at the end of each day to fill out this log. Try to give as complete a picture as possible. (Note: Student teachers' opportunities to talk to others vary considerably from school to school.)

Who did you speak with today? (Tick the appropriate boxes)	What did you talk about? (e.g. aspects of lessons, classroom management, teaching methods, etc.)	For how long? (Minutes)	Mode (e.g. Was it face-to-face, over the phone or email, etc?)	General Comments (e.g. Was it useful? Did you have opportunity to share your ideas? etc)
Cooperating Teachers				
School Coordinating Mentor				
University Supervisor				
Student teachers in the TP school				
Student teachers in Other Schools				
Other Teachers in the TP School				
Principal/Vice Principal				

Appendix 2

A Questionnaire (Post Teaching Practice)

Please answer the following questions as accurately as possible. Your feedback will be valuable for us to learn more about your teaching practicum. Please be assured that this questionnaire is anonymous and the data will be reported in such a way that it is impossible to trace you or your school.

	Low						High
1 To what extent did your university supervisor:							
- critically review and give guidance on your teaching methods	1	2	3	4	5	6	7
- offer advice on classroom management	1	2	3	4	5	6	7
- provide moral support and encouragement	1	2	3	4	5	6	7
- provide opportunities for you to reflect on your teaching	1	2	3	4	5	6	7
- provide opportunities for you to discuss related issues with your fellow student teachers	1	2	3	4	5	6	7
- act as a counselor	1	2	3	4	5	6	7
2 To what extent did your fellow trainee teachers:							
- critically review and give guidance on your teaching methods	1	2	3	4	5	6	7
- offer advice on classroom management	1	2	3	4	5	6	7
- offer moral support and encouragement	1	2	3	4	5	6	7
- give you new ideas on teaching	1	2	3	4	5	6	7
- provide feedback on your teaching	1	2	3	4	5	6	7
3 To what extent were you able to:							
- critically review and give guidance on your peers' teaching methods	1	2	3	4	5	6	7
- offer your peers advice on classroom management	1	2	3	4	5	6	7
- offer your peers moral support	1	2	3	4	5	6	7
- give your peers new ideas on teaching	1	2	3	4	5	6	7
- provide feedback on your peers teaching	1	2	3	4	5	6	7
4 To what extent did your teaching practice:							
- allow trainee teachers to be open for discussions and learn from one another	1	2	3	4	5	6	7
- offer opportunities for collaborative learning among trainee teachers	1	2	3	4	5	6	7
- help trainee teachers to develop positive attitudes toward discussing problems	1	2	3	4	5	6	7
- enhance relationship between trainee teachers and university supervisors	1	2	3	4	5	6	7
- enhance friendship among trainee teachers posted to different schools	1	2	3	4	5	6	7
- allow you to share ideas with your fellow trainee teachers	1	2	3	4	5	6	7
- provide opportunities for you to discuss your problems at a time when you need it most	1	2	3	4	5	6	7
5 Read the following list of attributes of a good teacher. Rate what you see as your current strengths on each one by circling the appropriate number.							
- understanding and supportive of pupils	1	2	3	4	5	6	7
- warm and friendly	1	2	3	4	5	6	7
- trusting	1	2	3	4	5	6	7
- enthusiastic	1	2	3	4	5	6	7
- cooperative with colleagues	1	2	3	4	5	6	7
- keen to improve teaching effectiveness	1	2	3	4	5	6	7
- open to suggestions	1	2	3	4	5	6	7
- can take criticism	1	2	3	4	5	6	7
- team player	1	2	3	4	5	6	7
- poise and confidence	1	2	3	4	5	6	7
- rapport with pupils	1	2	3	4	5	6	7
- able to evaluate pupils	1	2	3	4	5	6	7
- recognize own prejudices	1	2	3	4	5	6	7
- able to explain	1	2	3	4	5	6	7
- can make decisions	1	2	3	4	5	6	7
- organized	1	2	3	4	5	6	7
- classroom management	1	2	3	4	5	6	7
- flexible	1	2	3	4	5	6	7
- able to plan lessons	1	2	3	4	5	6	7
- ICT skills	1	2	3	4	5	6	7
- knowledge of subject	1	2	3	4	5	6	7
- able to criticize my own teaching	1	2	3	4	5	6	7
- able to criticize other student teachers' teaching	1	2	3	4	5	6	7
- grooming and dress	1	2	3	4	5	6	7