ENHANCING TEACHER DEVELOPMENT THROUGH *TeleNex* — A COMPUTER NETWORK FOR ENGLISH LANGUAGE TEACHERS[1]

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This paper reports an attempt to enhance the continuous professional development of English language teachers by setting up a computer network, *TeleNex*. The paper first proposes that the concept "teacher development" encompasses three important facets: the development of knowledge and skills, the development of a collaborative culture, and the development of the teacher as a person. It then discusses how the two components of the network, namely the database component and the communications component, enhance these facets of development. Briefly, the database component provides, through its grammar database and teaching ideas database, a body of subject matter knowledge and a bank of teaching resources to help teachers to develop their knowledge and skills. The communications component focuses on the other two facets of teacher growth. It provides a platform for teachers to initiate cross-school collaboration, build confidence in themselves as autonomous professionals, and share reflections on their classroom practices with others, thus enhancing their collaborative and personal development. Messages sent in by users show that participating teachers have been using the network to enrich their knowledge base and to share ideas and frustrations. These messages demonstrate that the network is providing valuable support to teachers in their development as autonomous professionals. Copyright © 1996 Elsevier Science Ltd

INTRODUCTION

The continuous development of teachers throughout their teaching career has been receiving more and more attention in the teacher education literature (see for example the collection of articles in Hargreaves and Fullan, 1992b). Ironically, it is an aspect of teacher education which is least resourced. As Llewellyn *et al.* (1982: p. 94) point out, this is because it deals with quality rather than quantity. They maintain that "(It) is politically and bureaucratically easier to acknowledge and do something about a shortage of teachers than it is to recognise and hence have to do something about a

disparity between good and poor teaching." This is particularly the case in Hong Kong.[2] Very little resources have been allocated to teacher development. In the Education Commission Report No. 5,[3] which is a policy paper on education in Hong Kong released in 1992, it has been pointed out that "there is no overall policy to ensure that initial teacher education and in-service professional development are provided in a co-ordinated and systematic way..." (p.4). Given that in Hong Kong, teachers do not need to be professionally trained to enter the profession, and that for certain subjects, for example, English language, less than thirty percent of secondary English teachers hold a first degree in English literature or English linguistics, there is an urgent need for opportunities for in-service teacher development (see Tsui *et al.*, 1994). Tsui (1993a), in responding to the Education Commission Report No. 5, points out that the continuous development of teachers is crucial in bringing about educational changes. She observes:

> In order that teachers are able to make informed decisions about educational policies and participate actively in bringing about educational changes, they need not only adequate initial teacher education but perhaps more importantly adequate *continuous* teacher development. (Tsui 1993: p. 26)

This paper reports an attempt to enhance the continuous professional development of English language teachers by setting up a computer network, *TeleNex*, which links teacher educators at the University of Hong Kong with school teachers. It first defines what is encompassed by the concept of "teacher development". It then discusses in detail the ways in which the network enhances teacher development. Data used in the discussion consist of questionnaire findings, messages in the communications component of the network, and hypertext files from the database component of the network.

FACETS OF TEACHER DEVELOPMENT

The term "teacher development" has been used in the literature to refer to the continuous intellectual, experiential, and attitudinal growth of teachers (see for example Joyce and Weil, 1980; Lange, 1983; Lange, 1990). However, there is no consensus on what teacher development encompasses. Hargreaves and Fullan (1992a) observe that there are three approaches to teacher development. The first approach sees teacher development as knowledge and skills development. This approach believes that helping teachers to develop better knowledge about their subject matter and acquire a wide repertoire of teaching strategies is central to teacher development. According to Hargreaves and Fullan, it is the dominant approach to planned teacher development activity in modern school systems. The second approach sees teacher development as a process of self-understanding which involves reflecting on one's personal and practical knowledge of teaching. It acknowledges the importance of personal development in the professional growth of teachers. The third approach sees teacher development as ecological change. It believes that teachers' working environment plays a very important part in the process and success of teacher development. For example, Hargreaves (1992) believes that a collaborative school culture in which teachers routinely support, work with and learn from each other is more conducive to their continuous professional development than a school culture in which teachers work in isolation.

We wish to argue that the three alternative approaches that Hargreaves and Fullan (1992a) outlined each deal with an indispensable part of teacher development and that they constitute three important "facets" of teacher development. The development of knowledge and confidence in teaching a subject, and the development of expertise in classroom management and teaching strategies, are basic to effective teaching which will enable students to learn better. However, they should not be the sole focus. The development of better teaching skills and deeper knowledge of subject matter cannot be divorced from teacher beliefs and attitudes; behaviours and beliefs are closely related. As Hargreaves and Fullan (1992a: p. 7) point out, "To focus on behavioural skills alone without reference to their grounding in or impact on attitudes and beliefs is misguided and liable to prove ineffective". Hence, an understanding of the personal beliefs, attitudes, and emotions of teachers, and helping them to gain self-understanding and self-knowledge through reflection on their classroom practices and articulation of their practical knowledge are equally important (see also Clark, 1992). In other words, the personal development of teachers is another important "facet" of teacher development. However, teachers do not develop entirely on their own. Their working environments also affect their development of skills and knowledge as well as their beliefs and attitudes. As Hargreaves and Fullan (1992a: p. 13) further point out, "(The) seeds of development will not grow if they are cast on stony grounds. Critical reflection will not take place if there is neither time nor encouragement for it. Teachers will learn little from each other if they work in persistent isolation. Creative experimentation with instruction and improvement will be unlikely if changes are implemented from the outside by a heavy-handed administration." In other words, the development of a supportive and collegial working context in which there is positive leadership and in which teachers are encouraged to collaborate and to learn from each other is essential to teacher development (see also Raymond *et al.* 1992: p. 154). As Hargreaves (1992: p. 216) points out, "teachers learn a great deal from many people, but they learn most from other teachers, particularly colleagues in their own school." He refers to the working context described above as a "collaborative culture" (1992: p. 227). Hence, the development of collaborative ways of relating to and working with other teachers is the third "facet" of teacher development.

Bell and Gilbert (1994: pp. 484–486), in a study of the development of science teachers as they participated in a teacher development project over a period of three years, have identified three main types of development in these teachers which are similar to the three "facets" discussed above. They are professional, social and personal developments. According to them, professional development is the cognitive development of ideas and the development of classroom action and practices; social development is the development of collaborative ways of relating to and working with other teachers; and personal development is the self-initiated development of the ability to discuss and solve their own problems, and to feel better about themselves as teachers.

We wish to propose in this paper that the concept of "teacher development" encompasses three important "facets": the development of knowledge and skills, the development of a collaborative culture, and the development of the teacher as a person. In discussing how *TeleNex* enhances teacher development, we shall be looking at how it enhances the development of these three "facets".

TeleNex — A NETWORK FOR TEACHER DEVELOPMENT

In view of the lack of attention paid to in-service teacher development, we thought that a computer network could be a viable means through which opportunities for continuous development could be provided to teachers. Hence, a computer network, *TeleNex* (Teachers of English Language Education Nexus), was set up in the Department of Curriculum Studies at the University of Hong Kong with the sponsorship of Hong Kong Telecom Foundation to provide opportunities for teachers who wish to seek further development.[4] The target population is English language teachers in Hong Kong secondary schools. The network went into operation in early 1994. Schools participate in the network on a voluntary basis and the English language teachers in the participating schools also register as users on a voluntary basis. In the first year, 15 schools were linked up and in the second year, the network is being extended to 29 schools, with a total number of over 300 teachers registered as users.

TeleNex aims to enhance the knowledge and skills development of ESL (English as a Second Language) teachers by raising teachers' awareness of issues related to English language teaching, enhancing teachers' subject knowledge, that is, how the English language works, and providing materials for practical classroom use with theoretical underpinnings; to enhance a collaborative culture by enabling them to share teaching materials, teaching ideas, problems in teaching and to work together on specific areas of teaching; to enhance the personal development of teachers by allowing them to talk about their problems and frustrations, their own classroom practices, to learn from the experience of other teachers, and hence to gain better understanding about themselves as teachers.

The enhancement of the above three facets is achieved by the two components of the network — the database component and the communications component. The database component consists of four databases which teachers can access: a grammar database, a teaching ideas database, a test bank, and a text bank.[5] The communications component allows teachers to send public and private messages to each other and to university staff. The software adopted for communications is *Lotus Notes*, which was originally designed for communication in business. Apart from allowing users to send private and public messages and to post news items, the provision of folders in the *Lotus Notes* workspace facilitates the organisation of different types of messages. For example, public messages are organised in the "conference folder", news items are organised in the "news folder", private messages are organised in the "mail folder", and so on. New folders can be created as need arises. Within each folder, corners can be set up to organise discussions around different topics. The software has been modified to make it more user-friendly for teachers.

The relationship between the database and the communications components is symbiotic. The questions and comments sent in by teachers serve as input for the development of the databases; the databases in turn generate further discussion among teachers. Both components are operated by a team of English language teacher educators at TELEC (Teachers of English Language Education Centre) at the Department of Curriculum Studies of the University of Hong Kong. In the rest of this paper, we shall discuss in greater detail how the two components of the network aim to enhance the three facets of teacher development outlined above.

ENHANCING KNOWLEDGE AND SKILLS DEVELOPMENT

Shulman (1986: p. 8) emphasises the importance of both the content aspect of teaching and the teaching process. For content knowledge, he maintains that there are three categories: (a) subject matter knowledge; (b) pedagogical content knowledge; and (c) curricular knowledge. Subject matter knowledge refers to an understanding of how the content of a particular subject is structured, that is, how the basic concepts and principles are organised and how truth and falsehood, validity and invalidity are established in that particular discipline (see Schwab, 1978). Pedagogical content knowledge refers to an understanding of how the subject matter knowledge can be related effectively to learners. Since, as Shulman points out, there is no one single most effective means of representing knowledge, the teacher needs to have a wide repertoire of knowledge presentation. This also requires an understanding of learners and what difficulties and misconceptions they have in learning a particular topic. Finally, curricular knowledge refers to an understanding of the alternative curriculum materials for a given subject as well as other subjects that learners are studying (for other models of teacher knowledge, see for example, Elbaz, 1983; Leinhardt and Smith, 1985; Grossman, 1990). Hence in talking about knowledge and skills development of teachers, we are really talking about the development of content knowledge as expounded by Shulman (1986). In this section, we shall explain how two of the databases, grammar and teaching resources, and the communications component achieve this aim.

Grammar database
It is now accepted that effective teachers should have a good control of their subject matter knowledge. As Kerr (1981: p. 81) points out, "...no matter how skilful one might be in getting students to learn things, the quality of one's teaching depends upon one's understanding the subject well enough both to choose appropriate learning materials and to design plans that do not violate the nature of the subject matter" (see also Shulman, 1986; Hashweh, 1987; Day, 1991). In the teacher education literature, it has been pointed out that knowledge, or lack of knowledge, of the content can "affect how teachers critique textbooks, how they select material to teach, how they structure their courses, and how they conduct instruction" (Grossman *et al.*, 1989: p. 28). The content knowledge of English language teaching involves an explicit knowledge of the linguistic systems of the language (Berry, 1994: p. 195). As many ESL teachers in Hong Kong are not subject-trained (Tsui *et al.*, 1994: pp. 352–353), we feel that an electronic database which provides information on the English linguistic systems would help them to acquire a body of subject matter knowledge.

In developing the grammar database to enhance teachers' knowledge of the English language, our aim is not to strive for comprehensiveness of coverage. Manpower and time constraints preclude this. More importantly, we believe that there are fundamental differences between the subject matter knowledge necessary for teaching and subject matter *per se* (Grossman *et al.*, 1989: p. 24). For this reason, grammatical information that is of exclusive interest to the professional linguist is excluded. Instead, only grammatical facts that are pedagogically useful are presented in the database. Figure 1 is an example of how information on a particular grammar item is organised in the grammar database.

Comparison

Prof's quiz
Ways of expressing comparison
Misconceptions
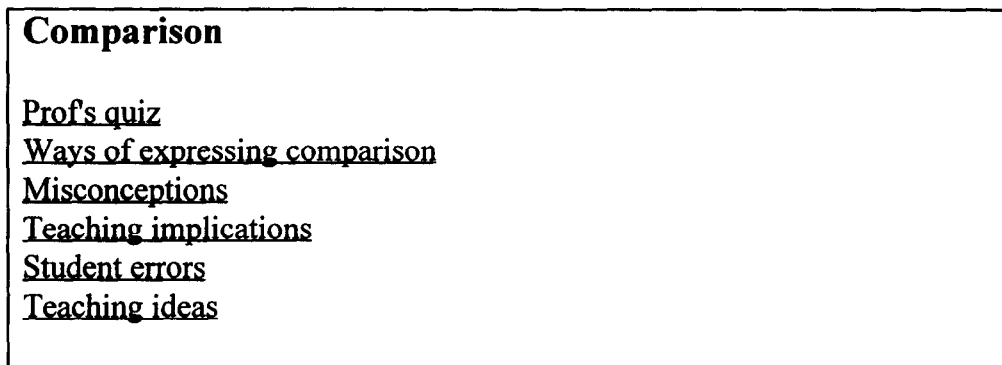Teaching implications
Student errors
Teaching ideas

Fig. 1. Menu of the comparison file.

Each of the six sections of this comparison file provides information that helps teachers to enhance their knowledge of the English language and of English language teaching. As this is a typical file and other files in the database have a similar structure, the rationale for each of the sections is worth discussing.

The first section, Prof's quiz, aims at raising teachers' awareness of language. Our belief is that language awareness plays an important role in the growth of a teacher from a language user to a language analyst and then to a language teacher (see Wright, 1991). Figure 2 is an example screen, where users of the database are presented with authentic examples and asked to reflect on a "rule" concerning the form of the superlative. The intention is to help teachers to understand the nature of grammatical rules — that when we make very general statements about grammar, "we are idealising about the language system, identifying broad patterns which effectively conceal some of the less orderly grammatical facts of specific examples" (Batstone, 1994: p. 8).

The second section, Ways of expressing comparison, focuses on meaning rather than form, a feature that sets the database apart from many grammar books on the market. The emphasis on meaning is intended to help teachers to realise that in language teaching, the aim should be on communication rather than mechanical drills on linguistic forms.

The third section, Misconceptions, highlights areas of misunderstandings among learners and even teachers. The hope is that by making teachers aware of these areas, commonly held misconceptions will not, as they used to be, passed from one generation of learners to the next. For example, in the Misconceptions section, we point out that one of the widely shared misconceptions about the superlative is that it must always be used with the definite article "the". We give examples to show that in certain contexts, the superlative can be used without "the".

The fourth section, Teaching implications, tries to make it explicit that the grammatical information presented in the grammar database has pedagogical value. To put it differently, this section attempts to bring subject matter knowledge and pedagogy together.

Prof's Quiz 2

Look at the following sentences, all taken from authentic samples of English.

1. ... *Sichuan is the biggest agricultural province in China.*

2. ... *when the rain was heaviest* ...

3. ... *that would be one of the greatest breakthroughs* ...

4. ... *the thing that I find saddest is that the schools evade the issue.*

Q. What do these sentences tell you about the use of *the* before superlatives? Please think for a while before clicking this icon ▇▇ for a suggested answer.

Fig. 2. An example screen from "Prof's Quiz".

The fifth section, Student errors, describes as well as explains some common mistakes made by students on the basis of analyses of a corpus of Hong Kong students' writing. A contrast between L1 (Cantonese) and L2 (English) is also given. It is hoped that this kind of information will raise teachers' awareness of the misconceptions that students have and that this kind of explanation will help teachers to explain the possible source of some common errors to their students effectively. As Shulman (1986: pp. 9–10) points out, pedagogical content knowledge includes an understanding of the conceptions and preconceptions that students bring with them to the learning process, and if their preconceptions are misconceptions, which they often are, then teachers need knowledge of effective strategies in reorganising the understanding of learners.

The last section, Teaching ideas, suggests concrete and often tried out activities on how to teach grammar communicatively and meaningfully, some of which are contributions by practising teachers. It is hoped that the activities suggested will add to the repertoire of teaching techniques of the users of the database.

To conclude, the first two sections of each file in the grammar database aim to enhance subject matter knowledge, and the third to sixth sections aim to enhance the pedagogical content knowledge of ESL teachers. Talking about new teachers, Grossman *et al.* (1989: p. 29) state that "learning to teach must be conceptualised as both learning more about subject matter and learning how to communicate that knowledge effectively to many

kinds of students." We wish to suggest that this observation is true for experienced teachers as well. By providing pedagogically useful subject matter knowledge, the grammar database aims at supporting all teachers, novice or veteran, in their professional development.

Teaching ideas database

The grammar database described above focuses on teachers' subject matter knowledge, and integrates this knowledge with teachers' pedagogical content knowledge. The teaching ideas database, on the other hand, attempts to develop teachers' pedagogical content knowledge.

The teaching ideas database contains teaching materials and activities together with guidelines for teachers. The aim of the guidelines is to help teachers to understand the underlying principles of language teaching and to raise their awareness of good and poor quality materials. The materials that are put into the database not only contain basic information on how to use the materials but also incorporate the pedagogical rationale behind them. The following screen from the teaching ideas database shows how the pedagogical rationale is incorporated in the materials by means of a pop-up screen (Fig. 3).

In addition, the realities of the classroom are taken into account by incorporating information regarding the ways in which the activities can be adapted to different classroom conditions into the materials. Instead of merely providing materials that teachers can
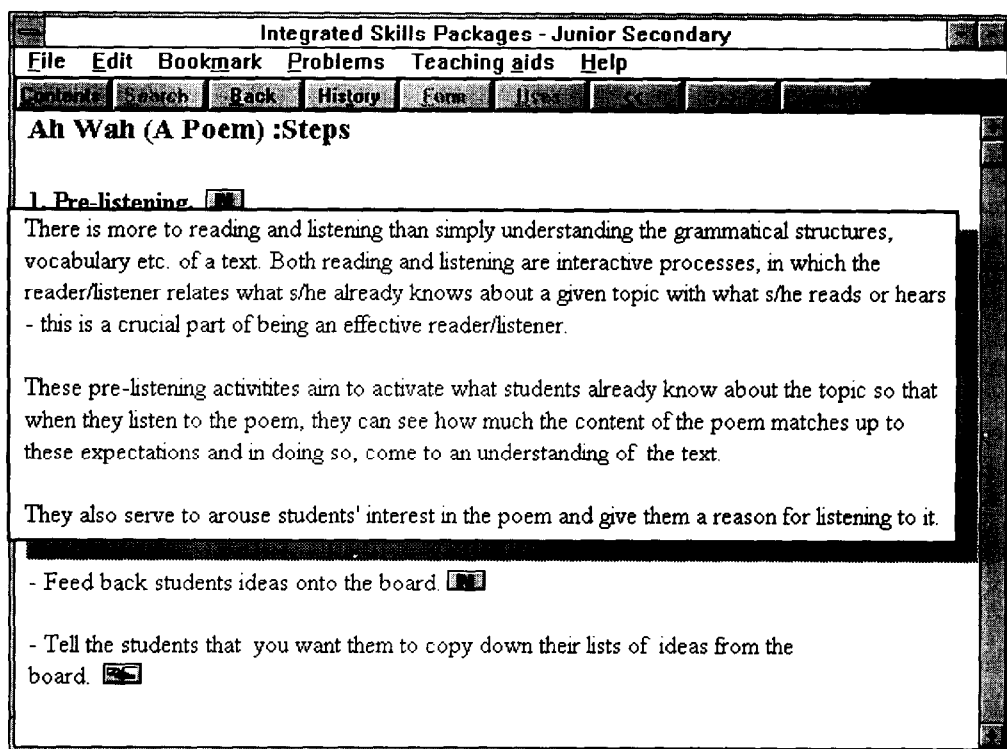

Fig. 3. A screen explaining the rationale for a teaching suggestion.

download, print out and use in the classroom, we also encourage teachers to adapt the materials provided to the needs and ability levels of their own students on the basis of the pedagogical principles given. This is achieved by providing at the end of the materials a blank worksheet for teachers to fill in the content.

Communications component

Besides the two databases, the communications component also enhances the skills and knowledge development of teachers by encouraging them to discuss questions and problems in their classroom teaching both with TELEC staff and with fellow teachers. For example, in the conference folder, eight corners have been created so far, among which the ones with high participation rate are Grammar, Teaching ideas, Fun, and Social Corners. By sending in and responding to questions as well as by reading questions and responses sent in by fellow teachers, teachers would be able to enrich their knowledge base. Questions about language use, such as "Should/Can we use 'please' after sentences like 'May I go to the toilet'?" are commonly found in the Grammar Corner. By providing teachers with the various possible aspects of language use and taking them beyond the consideration of syntactic accuracy alone, we hope to help teachers to develop a more sophisticated knowledge base of the English language.

Apart from questions about the English language, there is a very high percentage of questions about classroom teaching and practices. The following is an example of a question sent in to the Teaching Ideas Corner by a teacher:

> In setting reading comprehension questions, we would like our students to practise the skill of being able to make inferences. But there is a difference in opinion among our teachers about what is meant by "inference", and what kind of question will require students to exercise such a skill. Can anyone give us a definition and some examples?

Besides discussing questions with teachers, we also suggest materials and ideas for teaching in response to their request for help. For example, teachers may send in questions with regard to teaching a certain grammatical item or a particular language skill, and in response, we send materials to them by "file attachment"[6] so that teachers can then download to a word-processor and print them out for use in the classroom. We also incorporate the underlying principles of these materials and explain how they can be used in the classroom, so that teachers can develop their own activities along those principles. Sometimes after trying out the suggested activities, teachers would send in a message to share their classroom experience as well as their students' work.

To conclude, the above examples from the files in the two databases as well as from the messages illustrate how we attempt to help teachers to develop knowledge of the subject matter, knowledge of how best to represent the knowledge to students and what curricular alternatives are available which will best suit the needs of their students.

ENHANCING COLLABORATIVE DEVELOPMENT

Although research studies have found that teacher collaboration is related to "good practices in professional development, and positive outcomes in pupil achievement"

(Hargreaves and Fullan, 1992a: p. 16), collaboration among teachers is often ignored and even inhibited by the school's formal organisation. As a result, teachers often feel isolated from their colleagues. This isolation, according to Smyth (1991: p. 87), "drastically impedes the professional development of even the most conscientious and dedicated teachers."

Teacher collaboration is still very new to teachers in Hong Kong, particularly cross-school collaboration. As Tsui (1996) points out, teachers do not have many opportunities to interact with each other within the same school, and they have even fewer opportunities to interact with teachers in other schools even when the schools are literally next door to each other. In a questionnaire administered to teachers when they registered as network users, we found that the percentage of teachers who regularly had meetings to discuss matters related to teaching was 40% while the figure for those who often produced materials with their colleagues was only 38%.

TeleNex has devised three major ways of enhancing a collaborative and supportive culture among teachers. First, teachers are encouraged to share the materials that they have tried out in the classroom together with their students' work so that other teachers can see what can be achieved in the classroom (see the section on the "communications component"). TELEC staff will, after editing, present the materials in hypertext format in the relevant databases. Teachers' contributions are acknowledged at the beginning of each database file. If modifications are necessary, they are done after consultation with the teacher and the activity will appear on the network as a joint production of the teacher and TELEC staff.[7] Teachers who have tried out the materials in their own classrooms are also invited to send in feedback on whether they worked well and what modifications have been made, if any. The feedback can be sent to the conference corners.

Second, when teachers find that they need help, they can send a message to the conference corners. Colleagues in another school, if they have something to share, can then post a message in response. Figure 4 illustrates how this has been taking place. The suggestions offered in Fig. 4 (in the response message) were later edited and put onto the grammar database. In other words, messages sent in by teachers serve as an input to the development of the databases. In this particular case, not only was the teacher's suggestion incorporated into the grammar teaching activities in the grammar database, but a grammar file on making comparison was written and put into the database as well. This illustrates the symbiotic relationship between the databases and the communication components described in the "*TeleNex* — a network for teacher development" Section above. Sometimes, teachers may find that some of their own activities have worked very well in their classrooms and they send in a message to share their materials with other teachers. For example, a teacher has developed an exercise out of the poems that her students wrote and she sent it in by "file attachment" so that teachers can download to a word-processor for use in their classrooms. The teacher ends by saying "If you ask your students to write poems, please share with us."

Third, task groups are set up on *TeleNex* to enable teachers across schools to work with each other on a shared concern. So far, two task groups have been set up on theme-based teaching and teaching pronunciation respectively, and in the teaching pronunciation task

Author: YUK LING CHUI/Hong Kong Girl's College/Teachers of English Language Education
Centre   **Composed**: 16/03/94 15:47

Subject: Teaching of comparatives and superlatives
Category: Grammar

I am going to teach this language item. Do you have any suggestions on how to teach it?

Author: Anna Wu/Kowloon Secondary School/Teachers of English Language Education Centre
          Composed: 25/03/94 17:51

Reply: Teaching Comparatives & superlatives

Dear Yuk Ling,

Some former colleagues of mine designed some speaking activities for School-based Curriculum
Projects several years ago. One of the activities is on making comparison. Here it is:

TOP OF THE WORLD
Procedure:
1. The teacher invites 3 or 4 pupils to come out.
2. The class is asked to compare these pupils, e.g. Linda's hair is longer than Mary's; Jenny's hair is as
long as Linda's; Jane's hair is the longest. These sentences are to be written on the board.
......

Fig. 4. A message asking for help from a teacher and a response from another teacher.

group, teachers have been using the network to share teaching experience and exchange
teaching materials (see Tsui, 1995). For teachers who are in general not used to or
have little experience in cross-school collaboration, this kind of collaboration which has
been made possible by a computer network is a good start. We hope that eventually, we
can go beyond just sharing materials and experience, but also to be able to reach "deep down
to the foundations, [to] the principles or the ethics of practice", and extend to "the whole
purpose and value of curricular and pedagogical judgement" (Hargreaves, 1992: p. 228).

ENHANCING PERSONAL DEVELOPMENT

Inextricably related to collaborative development is personal development. Bell and
Gilbert (1994: p. 486) describe initial personal development in terms of a teacher "seek-
ing new teaching suggestions that work, new theoretical perspectives with which to think
about their teaching, to improve the learning in their classrooms, to feel better about
themselves as a teacher, and to learn how to put new ideas into action." In short, they
refer to the development of teachers' confidence in themselves as autonomous profes-
sionals (Jackson, 1992: p. 64) and their awareness of curricular alternatives (Shulman,

1986: p. 10). Another important aspect of personal development is, as pointed out at the beginning of this paper, the development of self-understanding and self-knowledge through reflection on teachers' classroom practices. As Bartlett (1990) points out, reflection involves moving beyond "how to" questions regarding teaching techniques and asking "why" and "what" questions about broader educational purposes.

TeleNex aims to enhance the personal development of teachers by helping teachers to build their self-confidence and fostering reflection on their own classroom practices. This is achieved mainly through the communications component.

Enhancing teachers' self-confidence

Providing encouragement to practising teachers is seen as an important element in the network interaction which helps teachers to see themselves as worthy individuals and professionals. Hence, when teachers share good practices and materials on the network, we feel that it is very important that they should be given recognition and encouragement. For example, a supply teacher[8] tried out one of the database files in his classroom and he shared his students' feedback as well as how he modified an activity to make it more interesting. His modifications were very sensible and in fact improved on the original materials. One of the TELEC staff responded as follows:

> I really liked the way you modified the activity. I can see your point...makes the games more interesting. We shall definitely incorporate your modifications in the database!...I understand that you are a supply teacher. Does this mean you are not going to be a teacher next year? It would be a great shame if it is the case 'cos you are obviously a super teacher.

While recognition by teacher educators in tertiary institutions is an important form of encouragement (see Allum, 1991), recognition and praise from peers is equally, and sometimes even more, important. In *TeleNex*, mutual encouragement and recognition amongst teachers is very common. This takes the form of giving positive feedback on ideas, materials, and classroom practices that teachers put on the network. For example, a teacher sent in a message to describe how she used poems to teach English, and how she managed to get a very weak student who was totally uninterested in learning English to produce a very simple poem. She also included the poem that this student wrote. This was responded to by a teacher who wrote, "I really love this idea. Imagine the sense of achievement the class, including this boy with untidy handwriting has. I'll let my colleagues read this and try it out with my students. Thanks for sharing such an excellent idea."

Enhancing critical reflection

The need for teachers to be reflective about their own teaching has been emphasised in the teacher education literature. According to Cruishank and Applegate (1981: p. 153), reflection is "a way of thinking about what happened, why it happened, and what else they could have done to reach their goals." In the process of asking "why" and "what" questions (Bartlett, 1990) and becoming aware of the alternatives that are available, teachers develop their ability to make informed decisions for their actions and be responsible for these decisions as professionals (see Ross, 1990: p. 22; Calderhead, 1989: p. 64). "Reflective teaching"[9] is now an important element in most teacher education courses. It is very important that teachers do not stop being a reflective practitioner once they graduate from teacher education courses, but continue to be so throughout their teaching

career. *TeleNex* provides a platform where teachers can share their reflections, ask questions about their own teaching, and consider perspectives and alternatives provided by fellow teachers. For example, in the Fun Corner, there were discussions on using jokes to teach English. One teacher sent in some wonderful jokes which could be exploited for English language teaching. We sent her a message asking whether she had used them for teaching purposes and if she had, how. She responded with a message entitled "Confession" in which she "confessed" that she never used any of them in her lesson. She continued as follows,

> Why not? 'Cos I always worry about not being able to finish what I'm supposed to teach (not what students are supposed to learn — Oh dear! What kind of a teacher I'm becoming?!!) by the end of the term. Actually, I'm always all the way behind the teaching schedule. So I seldom have time left in class. The other reason is that I think it's no fun to tell them jokes that they don't understand. I probably will lose interest if I have to explain every joke to them in Cantonese. I'm using too much Cantonese in class! ... another confession!

Using the mother tongue to teach in the English lesson is commonly held among teachers to be bad practice. However, many English teachers, particularly those teaching in lower banding schools,[10] resort to Cantonese when students cannot follow their instructions in English. The "confession" made by this teacher is indicative of her willingness to confront herself and ask questions about her own teaching. Reflections of this nature, however, are not commonly found on the network. This is partly due to the fact that this kind of reflection is seen by teachers as face-threatening because it is a sign of professional inadequacy (see Tsui and Ki, 1994 and Tsui, 1995, for a detailed discussion on this issue), as evidenced by the fact that messages in which teachers shared their personal reflections, problems and frustrations were usually sent in as private mail messages. It is also partly due to the fact that many teachers enjoy the security of isolation. As Hargreaves (1992: p. 20) points out, isolation offers "a welcome measure of privacy, a protection from outside interference which they often value". It takes time to foster an open culture among teachers in which they feel they can freely share their reflections, problems, and frustrations. We feel that *TeleNex* is one of the agents that can help to bring this about.

CONCLUDING REMARKS

Riel (1992: p. 28) observes that "as presently conceived, teaching is all too often a sink or swim proposition with very few lifelines available to support a new teacher." There has been a lot of emphasis on the importance of induction, that is, supporting new teachers. In fact, it is equally important to provide opportunities for experienced teachers to develop. Studies on teachers' life histories have shown that teachers' commitment to teaching often happens after four or five years, and in some cases even up to seven years or more into their teaching (see for example Raymond *et al.*, 1992). Therefore it is important that the opportunities are there when teachers are ready to seek further development in their profession.

In Hong Kong, opportunities for teacher development often take the form of refresher courses or seminars. While these courses and seminars are necessary, they have time and geographical constraints. By setting up a network which can be accessed by teachers at

any time of the day, in whatever geographical location, and at any point in their teaching career, we hope that we are providing an important "lifeline" for teachers to hold onto when they feel that they need it, and that we are helping teachers to develop as autonomous professionals by enriching their knowledge base and widening their teaching repertoire, by learning from and sharing with their peers, and by reflecting on their own practices.

NOTES

[1] This paper is a revised version of a paper presented in the Colloquium on Issues in the implementation of a computer network for ESL teachers in Hong Kong, at the International Language in Education Conference, 14–16 December 1994, held at The University of Hong Kong.

[2] The report by Llewellyn *et al.* (1982) was written after studying the educational scene in Hong Kong in 1982. In the past 15 years, the situation has not changed very much.

[3] The Education Commission is an education policy making body. It releases policy reports at regular intervals. Report No. 5 focuses on teacher education.

[4] The authors would like to thank Hong Kong Telecom Foundation for their generous support.

[5] The textbank consists of feature articles sent electronically to TELEC by the South China Morning Post, which is the biggest English newspaper in Hong Kong. These articles are often used by English teachers to develop reading comprehension exercises and tests, and for students' project work. The authors wish to thank the South China Morning Post for their generosity and support.

[6] File attachment is a very simple process. Teachers are trained how to attach and launch files in the training session. The advantage of this function is that instead of typing in the materials all over again, teachers can take the materials that they have already put onto the computer and send them in.

[7] In getting teachers to share materials, one important consideration is whether this will be time-consuming for teachers. For BTCN (Beginning Teachers Computer Network) at Harvard University, because of the lack of optical scanning or FAX capability, teachers have to type lesson plans or curriculum materials into the computer which is very time-consuming. As a result, the network was rated as ineffective in providing curriculum support (see Merseth, 1991). For *TeleNex*, teachers contributing materials only have to fax their materials to the Centre. This does not require much extra work from teachers since every school has a fax machine.

[8] A supply teacher is a temporary teacher who is standing in for a serving teacher who has gone on leave.

[9] Although there are various interpretations of the notion of "reflective teaching", these interpretations share the fundamental view that reflective practice involves what Calderhead (1989: p. 64) characterises as teachers' cognition and meta-cognition processes of "comparison, evaluation, and self-direction" (Mok, 1994: p. 93).

[10] Secondary schools in Hong Kong are classified into 5 bands according to the academic abilities of the students. Band 1 is strongest and Band 5 weakest. Most secondary schools in Hong Kong are supposed to use English as the medium of instruction. However, because of students' inability to cope with instructions in English, many teachers use a mixture of English and Cantonese, even in English lessons. This practice, however, is frowned upon by the Education Department (which is the equivalent of the Ministry of Education in other countries).

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