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A PILOT STUDY TO TEST THE EFFECTIVENESS OF EDUCATION QUEENSLAND'S 'SCHOOLING 2001' PROJECT FROM THE LOTE TEACHERS' POINT OF VIEW

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ABSTRACT

The study described in this article, uncovered the realities and expectations of computer use by Languages Other Than English (LOTE) teachers in language classrooms in state high and primary schools in metropolitan Brisbane. The expectations of LOTE teachers concerning computer use by teachers are listed as part of the Education Queensland initiative called 'Schooling 2001', implemented in 1997. This bold, generously funded three year project had, as one of its major goals, the improvement of computer technology skills and professional development in the teaching workforce. It had, as part of its blueprint, the stipulation that all teachers across the state of Queensland must have attained and applied the 'Minimum Standards' in technological competence by the end of the year 2001.

This research was prompted by indications that the project's goals were not on target: that just one year before the project's deadline (2001), many teachers were still not using computers in the classrooms to achieve and extend curriculum goals. Consequently, it examined the attitudes of LOTE teachers in Brisbane towards language learning and computer technology to try to uncover the reasons why Computer Assisted Language Learning (CALL) was

not being used in their language classrooms.

The study revealed that, although the stipulations inherent in the 'Schooling 2001' project are straight forward and well articulated, there are many other complex factors which impact on and often impede a smooth transition to computer implementation by teachers.

Studies such as this have much to offer researchers in dealing with understanding the many complex aspects surrounding computer use by teachers. Large amounts of financial resources given by government institutions as part of an education project, although necessary, are not adequate to ensure a successful adoption of computers by teachers in their classrooms, if proper mechanisms are not used continuously to monitor and support the successful implementation of such a project.

1. INTRODUCTION

Education, like all areas of life, is undergoing change. New improvements in teaching methods, research findings for more efficient student learning outcomes, and the advent of technology have created forces which are changing traditional education practices. The new educational reality sees the need to equip students with knowledge and skills necessary for an increasingly technological workforce and society. As a consequence, Education Queensland created, in 1997, the 'Schooling

2001' Project - an initiative founded on the imperative to move to new teaching and learning practices, incorporating the latest advances in technology. However, Education Queensland recognised that technological infrastructure and educational software would not be enough to move to a new educational paradigm. Teachers needed to possess skills and expertise in these areas in order for a successful transition to occur. Thus the 'Schooling 2001' Project has a major focus on professional development and training. Its aim is to 'improve the professional skills and morale of the teaching workforce to meet the challenges of the new century and the introduction of information and communication services to our classrooms.' (Education Queensland, 1997, p. 3).

Prompted by indications (McKay & Robinson, 1997; Hardy, 1998) that many LOTE teachers were still resisting using CALL in their language classrooms, and just one year before the Project's completion date, this timely research was conducted to ascertain the reasons why. CALL may be defined (Levy, 1999) as using a computer and any hardware and/or software attached to it, to assist language teaching and learning. CALL can, for example, be used for word processing in the target language, searching for linguistic information on databases, playing language games and simulations, and/or doing grammar practice exercises. It can also be used for searching the World Wide Web (WWW) for current information in the target language (e.g. newspapers), and with the adequate software support, it can be used for real time communication in the target language with audiences in the target culture.

2. THE 'SCHOOLING 2001' PROJECT': AN OVERVIEW

The use of computers pervades modern society. Computers have significantly affected the rate and nature of change in our society in the last few years. The pervasive use of computers and the concurrent explosion of available information have had

a significant impact on education in Queensland and other parts of the world (Education Queensland, 1995, p. 1). As a result of this impact, Education Queensland has adopted the view that all students should have opportunities to come to know how computers can support their learning, and understand the influence of computers on everyday life (Education Queensland, 1995). To that end, Education Queensland, in 1997, initiated the 'Schooling 2001' Project. This initiative was founded on the imperative to move to new teaching and learning practices so that such opportunities are open and available to all students in state schools in Queensland. The rationale behind 'Schooling 2001' was to ensure that all students from preschool to Year 12 have access to the necessary computer resources and the instructional approaches, which will deliver an education appropriate for the Information Age of the 21st Century (Education Queensland, 1997, p. 3).

The 'Schooling 2001' Project provides resources and support for schools to achieve such an education. These resources and support, given to all state schools in Queensland over the three year period, are realised in the two broad categories of: Learning Technology Grants and Systemic Initiatives. A summary of the two categories is provided here:

A: Learning Technology Grants

According to Dean Wells, Queensland Minister for Education, the total expenditure for 'Schooling 2001' Project was approximately \$80 million (Hamill ignites IT', 2000, p. 1). All state schools in Queensland received:

- A 'Computer Maintenance Grant', (approximate expenditure: \$37.5 million), which aimed to maintain schools' past and current investments in learning technology. The funds were provided for repairing, upgrading, maintaining, replacing and purchasing learning technology resources in all state schools.

- A 'Professional Development Grant' (approximate expenditure: \$15.5 million), which aimed to increase teachers' skills in the use of computers for learning and teaching.
- A 'Learning Technology and Enhancement Grant' (approximate expenditure: \$18 million), which aimed to improve the student/computer ratio and/or establish or extend networks to give classrooms access to the Internet.
- A 'Curriculum Software / Coursework Grant' (approximate expenditure: \$8 million), which aimed to provide funds for the purchase of quality curriculum software and courseware.

B: Systemic Initiatives

(Education Queensland's website: <http://www.education.qld.gov.au/tal/2001/home.htm>). These initiatives, as part of 'Schooling 2001', include:

- The 'Minimum Standards' Project, aimed to publish and distribute minimum learning technology standards for teachers in the areas of 1: IT skills. 2: Curriculum applications. 3: School learning technology planning. 4: Student-centred learning.
- The 'Global Classrooms' Project, aimed to provide Internet access to all schools.
- The 'School Network Information' Project, aimed to develop school networks.
- The 'Electronic Resource Evaluation' Project, aimed to provide information of quality Internet sites and software resources.
- The 'Online Curriculum' Project, aimed to provide online curriculum information, support and services.
- The 'Learning Outcomes' Program, aimed to develop and apply assessment instruments to determine the extent to which students improve their levels of achievement through the use of learning technology

It is expected that schools utilize 'Schooling 2001' funds to make significant progress

towards achieving the Project's targets set for the year 2001. As stated in 'Education Views', (1999, p. 20), these targets are:

- ∞ Computers in every classroom for use across all eight (8) Key Learning Areas and all year levels.
- ∞ A ratio of at least one computer per 7.5 students.
- ∞ Every classroom with Internet connection.
- ∞ All teachers with a minimum level of skill in the use of computers for learning.
- ∞ Quality curriculum software and courseware systems available for all students and teachers.
- ∞ Improved student learning outcomes through the use of learning technology.

Education Queensland recognises that the resources and funding, as part of 'Schooling 2001' Project, aid schools in implementing the 'Computers in Learning Policy'. The guidelines outlined in the 'Computers in Learning Policy' (Education Queensland, 1995) state that:

- Students will use computers for the attainment of curriculum goals.
- Teachers will acquire skills and competencies in the use and application of computers.

1.2: The 'Minimum Standards' Project

The 'Schooling 2001' Project has as one of its key systemic initiatives the 'Minimum Standards' project. This project was developed to indicate the minimum level that all teachers in the state of Queensland are required to reach by the year 2001. It takes the format of a checklist comprising various components which teachers are expected to tick off when competent (See Education Queensland's website <http://www.education.qld.gov.au/tal/2001/home.htm>). There are four (4) components to the 'Minimum Standards':

1: Information Technology (IT) Skills - Teachers must develop skills in the use of computers for their own personal ends, such

as administration, preparation and presentation. They must have knowledge and competence in the areas of A: *Hardware*: for example, be able to change ink cartridge, determine the configuration, understand input devices and other hardware related concepts. B: *Software*: for example, be able to perform basic word processing functions, understand files and folders, do basic formatting amongst other skills, and C: *Telecommunications*: for example, be able to use a WWW (World Wide Web) browser, send and receive e-mails as well as other information technology skills.

2: Curriculum Application. - Teachers must incorporate the use of computers to achieve and extend curriculum goals, for example, selecting worthwhile CALL activities to achieve LOTE curriculum goals.

3: School Planning - Teachers must have an understanding of how technology affects the whole school in order to achieve technological continuity across all year levels and all curriculum areas.

4: Student-centred Learning - Teachers must have an understanding of the individual learner, his/her needs and strategies, and an understanding of the learning process generally, in order to incorporate technology successfully into it.

2. RESEARCH QUESTIONS

There is much research findings available on the benefits of computer assisted language learning (McKay & Robinson, 1997; Warschauer, 1997; Windschitl, 1998; Levy, 1999). It has been argued that students' motivation levels for language learning are increased substantially using CALL (Warschauer, 1997; Windschitl, 1998; Levy, 1999). The use of CALL offers a variety of learning styles. Some types of software, for example, icon-driven and hypermedia programs, may offer alternative learning paths for students whose preferred way of learning is visual. Hypermedia

application has the potential to meet the needs of different learning styles (Chun & Plass, 1995). The different learning styles that can be accommodated with CALL, are relevant to a LOTE classroom, where individual proficiency levels of the target language are often apparent (Commins, 1996).

With CALL, learning can be self-directed or cooperative. Self-directed learning encourages the student to take control of the learning process which is a desirable goal for student and teacher. Cooperative learning is also a desirable goal. It can stimulate cognitive achievement, build positive peer relationships, facilitate peer tutoring and on-task talk among students (Education Queensland, 1995; Warschauer, 1997). Collaborative decision-making can extend the range of thinking skills from lower order, such as recall, to higher order thinking skills such as analysis and synthesis (Education Queensland, 1995; Windschitl, 1998; Levy, 1999).

With such promise of advancing education, the computer should be well accepted and well utilised by teachers. However, this is not the case. Computer technology has never assumed a significant presence in schools (Cuban, 1986; Snyder, 1996; Maddux, 1998). Many teachers have limited or no knowledge of computer technology (Okinaka, 1992; Snyder, 1996; McKay & Robinson, 1997; Hardy, 1998; Bennett, 1998). Many language teachers remain sceptical about incorporating computer assisted language learning into their lessons (Levy, 1997, p. 146; Durrant & Green, 2000). Moreover, many studies have concluded that there is an apparent reluctance on the part of teachers to embrace computer technology (Cuban, 1986; Snyder, 1996). A critical variable in the implementation of computer technology is the teacher's attitude towards it (Okinaka, 1992; Daud, 1995; Hardy, 1998).

In the year 2000, Murphy conducted an in-depth study, with the guidance and supervision of Cristina Poyatos Matas, in

order to find out if it is indeed the teacher's attitude which is creating barriers to the successful implementation of computer technology in the language classroom or whether reasons other than attitudes, contribute to these barriers. This paper presents a summary of why LOTE teachers in the Brisbane metropolitan area are not using CALL in their language classrooms despite Education Queensland's stipulation to attain and apply the 'Minimum Standards' in technology by 2001. The study was conducted by structuring the data and data analysis around the five (5) main research sub-questions. These were:

1: Why are some LOTE teachers still not using CALL in their language classrooms?

2: Which domain do these reasons fall into? - either **A:** Reasons within the LOTE teacher him/herself (intrinsic) such as computer anxiety, resistance to change, dislike of technology, lack of confidence, and other reasons: or **B:** Reasons outside the teacher (extrinsic) such as insufficient hardware, irrelevant training programs, lack of support from school administration and/or other external reasons.

3: In light of the 'Schooling 2001' Project, what are Education Queensland's expectations of LOTE teachers in the area of computer technology?

4: Does Education Queensland have accurate knowledge of the current realities of technology use by LOTE teachers?

5: How do the participating LOTE teachers evaluate the 'Minimum Standards' initiative as part of the 'Schooling 2001' Project?

The study (Murphy, 2000) provides a full description and analysis of each question and the resultant outcomes. In this paper, an overview of the main findings is outlined.

3. THE PARTICIPANTS

For this study, twenty (20) LOTE teachers currently not using computers in their language classes were randomly sampled from schools in the Brisbane metropolitan area. Ten (10) were from High schools and ten (10) from Primary schools. The languages taught were French, German and

Japanese. Fifteen of the teachers were female and five were male. The teachers chosen were from a diverse range of ages: three were aged between 20 and 30, six between 31 and 40, six between 41 and 50, four between 51 and 60, and one teacher was aged between 61 and 70 years at the time of the study. The total years of teaching experience were also diverse with three teachers having 0 to 5 years LOTE experience, ten having between 6 to 10 years, two between 11 and 15 years, two between 16 and 20 years and three teachers with over 20 years experience. Educational backgrounds of the teachers were divided into two groups: one having postgraduate qualifications (15 teachers) and one having no postgraduate qualifications (5 teachers). However, their cultural backgrounds were similar in that all teachers except one had English as his/her mother tongue.

In addition, input from Education Queensland officials was sought, for their interpretations of the Project, their expectations of teachers in terms of computer technology use and the level of support they are giving teachers to achieve those goals. Four (4) senior personnel of Education Queensland were interviewed. These officials were chosen because of the relevance of their department to the focus of this study. One was the senior education officer of learning technology in Education Queensland. Another was the principal education officer of LOTE curriculum in Education Queensland. The manager of LOTE in the teaching and learning branch of Education Queensland was also chosen as was the principal of the LOTE centre in Brisbane.

4. RESEARCH METHODOLOGY

In order to research the reasons why LOTE teachers are not using technology in their language classes, a naturalistic inquiry was considered to be the methodology most likely to yield the best and most accurate results (Larsen- Freeman & Long, 1991, p. 14). The major concerns of qualitative researchers are not only the way things are,

but also the reasons why things become the way they are and how people view the way things are. That is to say, the aim of qualitative researchers is to achieve a 'holistic, in-depth understanding' of the context (Gay, 1996, p. 13). A holistic investigation then, in this research, was necessary to understand the complex process of teacher practices, attitudes and beliefs (Hornberger, 1994, p. 678; Lazaraton, 1995, p. 467).

However, naturalistic inquiry was not the sole research method. Quantitative research involving a questionnaire and an observation tool added another dimension to this research paradigm. The data collected and analysed quantitatively were cross-checked and compared with the data collected and analysed qualitatively. In this way, methodological triangulation was employed to give breadth and depth to the analysis and also to enhance research validity (Denzin, 1997, p. 322; Cresswell & Miller, 2000, p. 124).

5. THE RESEARCH INSTRUMENTS

5.1: Teacher Questionnaire

A self-responding questionnaire was given to all twenty (20) teachers. This comprehensive questionnaire took the form of a Likert, five (5) point scale, ranging from 'strongly agree', to 'agree', to 'no difference or undecided' to 'disagree' and 'strongly disagree'. The questionnaire was subgrouped into nine (9) sections. They were: **1:** Background Information. **2:** Language Learning Perceptions and Beliefs. **3:** Knowledge of Computers. **4:** Prior Experience of Computers. **5:** Personal Beliefs and Attitudes towards Computers. **6:** 2001 Prescribed Minimum Technology Standards set by Education Queensland. **7:** Training Management and Support. **8:** Hardware and Software. and **9:** Barriers to the use of CALL in LOTE classes.

The format of the questionnaire was such that the results could be divided into two major areas explaining technological non-use by teachers, the concept of which was

the central tenet of the research. These areas were **A:** reasons within the teacher him/herself (intrinsic) for not using CALL for example, computer anxiety, a general resistance to educational change, confusion as to how to integrate technology into the LOTE curriculum (sections 2 - 5) and **B:** reasons outside the teacher (extrinsic), for example, insufficient hardware at the school, pedagogically unsound language learning software, insufficient or irrelevant training programs, lack of support from school administration and/or other extrinsic reasons. (sections 6 - 8). The final section, barriers to the use of CALL in LOTE classes, comprised a combination of intrinsic and extrinsic reasons for non-CALL use.

5.2: Teacher Interviews

Interviews were conducted with all twenty (20) teachers, after a lapse of at least two (2) weeks from the date the researcher received the completed questionnaires. This was done to allow the researcher enough time to peruse the questionnaires and reflect on the teachers' answers in order to bring up salient issues at the interview (for example, those questions where the teacher had marked a 'strongly agree' or 'strongly disagree' or had written a strong opinion in the 'comments' section). It also allowed the researcher to get a more complete picture of the attitudinal and instructional behaviour of the teacher and to see where and how attitudes to technology and instructional methodologies differ (Hornberger, 1994).

Guided questions such as whether or not teachers had prior training in language teaching methodology, and in technology use, how they saw their role as a teacher and how they saw the role of the students, as well as what they felt could be done to make it easier for them to use technology, were used to bring structure to the interview which lasted about 30 minutes. All but four respondents allowed the interaction to be taped which allowed the researcher increased accuracy and permitted full attention in the face-to-face interview by

reducing the need for note-taking (Patton, 1990). The interviews were all held in the context of the teacher's working environment, usually their own classroom at a time and date suitable to them. This was done in order to create a less intrusive and friendlier aspect to the interviews.

5.3: Senior officials' interviews

As well as interviews with all twenty (20) LOTE teachers, semi-guided interviews were also conducted with four (4) Education Queensland senior officials. These interviews, individually tailored for each official, were structured along a guide list compiled by the researcher. They lasted approximately 40 minutes and were conducted at the interviewee's place of work and all were taped for clarification and transcribing. The aims of these interviews with these senior officials were to assess their respective department's:

- 1: expectations of LOTE teachers and technology (in light of the 'Schooling 2001' Project).
- 2: knowledge of the current reality of technology use by LOTE teachers.
- 3: level of human and financial support given to teachers in respect of technology use.

5.4: Classroom Observation

The study aimed to describe as accurately as possible what was happening in the context of each teacher's language learning classroom. Using naturalistic, non-participant observation, the researcher tried to be as unobtrusive as possible so as not to influence what was happening in the class (McDonough & McDonough, 1997, p. 105). Each teacher was observed for one whole lesson lasting approximately forty (40) minutes. A systemised observation tool was designed (by the researcher) and was used for all teachers, noting such things as language teaching methodology, classroom configuration (including computer furniture, if any) and classroom management. As well, the roles of both the teacher and student were noted.

The systemised observation tool also helped to reduce observer unreliability among the twenty (20) schools. This instrument, which focussed on specific behaviour and attitudes, also helped the researcher strive for balance, objectivism and open-mindedness in presenting and evaluating data (Lazaraton, 1995, p. 468; McDonough & McDonough, 1997, p. 105). This systemised observation tool was pilot tested to give actual practice in recording specific behaviour as well as detecting any anomalies. Objectivity in the observation was further enhanced by use of method triangulation (Denzin, 1997; Cresswell & Miller, 2000). Multiple methods, that is interview, questionnaire as well as observation were used to collect similar data. In this way, the research findings could be corroborated and matched with one set of data to another, thereby reducing some of the subjectivity associated with non-participant observation.

6. OUTCOMES

The study focussed on the non-use of computer technology for language learning by some LOTE teachers in the Brisbane metropolitan district, in the context of the Education Queensland project: 'Schooling 2001'. The outcomes of the data analysis of this study are:

6.1: LOTE teachers and technology

The participating LOTE teachers have positive attitudes to computer technology, even though they do not use computer assisted language learning in their classes. There is little evidence of 'computer phobia'. The CALL literature has suggested that a likely reason why some teachers do not use computer technology in their teaching is because these teachers may have poor attitudes towards technology (Cuban, 1986; Okinaka, 1992; Daud, 1995; Hardy, 1998). Results from this study show otherwise. The data collected from the questionnaire and interview show that the teachers have very positive attitudes towards computers, and

perceive positively the capabilities of computers in language learning. However, the participating LOTE teachers have limited confidence and competence in the use of computer technology for language learning. This is to be contrasted with Education Queensland's acknowledgement that the success of the 'Schooling 2001' Project is dependent on two factors: teachers' confidence and teachers' competence in the use of computer technology. A lack of knowledge of hardware and software, as well as insufficient LOTE specific training has contributed to the limited confidence and competence in the teachers. There is also a lack of knowledge as to how to integrate CALL into the LOTE curriculum to achieve and extend curriculum goals.

From the participating teachers' point of view, there appears to be a genuine desire to learn and implement CALL (McKay, & Robinson, 1997, p. 23). The data shows that the teachers have a positive attitude towards learning how to use computer technology and they also recognise the benefits of computer assisted language learning. What is lacking is more support for the teachers in terms of relevant training, especially how to integrate language learning software and other CALL activities into the LOTE curriculum. As well, the data shows that there is a lack of sufficient computers and access to those computers for the participating teachers. The research revealed the common assumption among the teachers that often a school's computer resources are more readily allocated and available to other disciplines, such as Maths or Science, than to LOTE.

A shortage of time was cited as another major reason why the participating teachers did not implement CALL into their language lessons. Many teachers reported that they did not have enough time in their working week to familiarise themselves with computer technology or to preview language learning software and prepare CALL activities. Searching the World Wide Web (WWW) for suitable sites for

classroom teaching was very time consuming according to the teachers who did not have sufficient free time to do this.

In addition, it was observed that the small dimensions of most of the classrooms in this study would not be able to adequately encompass the inclusion of a computer corner, where individual or group work around a computer would not interfere with the rest of the class. Lack of suitable space for privacy of computer assisted learning was evident in most of the classrooms in the study.

Finally, it was noted, during this study, that most of the participating teachers had not received sufficient computer training in their teacher training courses at University. Even the younger teachers interviewed (aged under thirty (30) years) had had little or no exposure to computer training at University.

6.2: Education Queensland and 'Schooling 2001' Project

The huge financial outlays for professional development, as part of the 'Schooling 2001' Project, are not reaching some individual LOTE teachers in the form of technological assistance and training. Many of the teachers in the study reported that they were not aware of the professional development fund allocation as part of 'Schooling 2001' Project, nor were they aware of the amount of those funds. Only five percent (5%) of the teachers in the study believed that Education Queensland was providing enough money to schools to assist teachers in achieving the 'Minimum Standards'. This is to be contrasted with the fact that professional development funding for the 'Schooling 2001' Project was the largest ever single expenditure for professional development by Education Queensland and amounted to over \$15 million. Some of the participating teachers complained that they had received little or no training nor any assistance to obtain computer training. Technological support in terms of computer

assisted language learning training for a lot of the teachers in this study was lacking.

In addition, computer availability for LOTE teachers needs improving. Only ten percent (10%) of the teachers in the study believed that there were enough efficient computers, in the schools, to use with their LOTE classes. Seventy percent (70%) of the teachers in the study would like to see more computers in their schools.

This is to be contrasted with the fact that grants for computer maintenance and computer enhancement, as part of the funding for the 'Schooling 2001' Project, amounted jointly to approximately \$55.5 million.

The participating teachers' perceptions of the 'Schooling 2001' Project were positive. They were unanimous in their agreement with the need for teachers to acquire the technology skills inherent in the 'Schooling 2001' Project. However, the 'Schooling 2001' Project has not achieved complete success for the participating LOTE teachers due to a lack of technical infrastructure, adequate hardware and software, in their schools, as well as a lack of LOTE specific technology training for the teachers. Many teachers in the study indicated that if better access to efficient hardware and software were available, then the likelihood of implementing CALL into their language classes would be greater.

Some participating LOTE teachers have not achieved the 'Minimum Standards' as expected by Education Queensland's 'Schooling 2001' Project, and according to the teachers themselves nor will they have achieved these standards by the target date 2001. Only thirty-five percent (35%) of the teachers in the study, believe that they will have attained these standards before the target date, 2001. This is a major discrepancy between Education Queensland's technology expectations of LOTE teachers and the reality in the language classroom.

A lack of formal monitoring and evaluation of the 'Schooling 2001' Project by Education Queensland is contributing to the participating teachers non-attainment of the 'Minimum Standards'. Direct communication between individual teachers and relevant departments of Education Queensland, except for the LOTE centre, is not evident from the study. The outcomes of my research confirmed the results of a study done by Education Queensland in April, 1999

(http://education.qld.gov.au/public_media/reports/1999/index.htm#newtech). To our knowledge, no further study by Education Queensland, since that date, has been undertaken on the assessment of teacher acquisition of computer technology skills within 'Schooling 2001'.

Some of the teachers in this study alluded to the fact that they felt 'voiceless' in their role as LOTE teachers in the context of Education Queensland projects, such as 'Schooling 2001'. A lack of direct communication between Education Queensland and LOTE teachers contributes to this fact according to the teachers.

The outcomes of the study are relevant to the current debate on the use of technology by teachers, which has been evident in several state newspapers. The issues raised in the study, are a concern of some state politicians, including the Minister for Education, as well as officials from the Queensland Society for Information Technology in Education, and the Queensland Teachers' Union, all of whom have recently voiced opinions on the subject of teachers and the use of technology, in the media.

7. CONCLUSION

7.1: LOTE teachers and technology

There is a need for more general computer training for LOTE teachers. More support in the form of general training in computer technology, as well as LOTE specific technology training (CALL), is

recommended for teachers, including how to incorporate current pedagogically effective language learning software into the LOTE curriculum.

There is a need to increase the number of reliable and up-to-date computers available in schools, including a supply to individual LOTE teachers. In this way, LOTE teachers can develop and practice new technical skills at their own pace. To make available more up-to-date computers to LOTE students would ensure greater CALL usage according to the participating teachers in the study. As well, there is a need for some of the schools' computers to be allocated solely to LOTE classes, so that access is not a problem and LOTE classes are no longer disadvantaged behind other disciplines such as Science or Maths.

Some of the participating teachers expressed the need for bigger or more efficient classrooms to encompass the inclusion of a computer corner. This may necessitate a redesigning of the traditional classroom towards a more student-centred, computer friendly and resource-rich room. Some of the Primary LOTE teachers in this study perceived that if they had a room of their own for teaching and a computer included in that room, it would be easier for them to incorporate CALL into their lessons. Education Queensland should consider allocating Primary LOTE teachers a room of their own, computer included, for teaching purposes in order to facilitate the integration of computer assisted language learning into the LOTE curriculum.

LOTE teachers need to be given more time during their working week for the acquisition of computer skills and the preparation of CALL lessons. This may necessitate some release from classroom teaching. Many of the teachers in the study cited the main disadvantage of CALL use as 'time consuming'. Support needs to be given to LOTE teachers to demonstrate strategies on how to reduce preparation time and implement CALL lessons efficiently.

Finally, there is a need for teacher training undergraduate university degrees to incorporate a comprehensive computer training component. In this way, newly graduated LOTE teachers will have more experience and knowledge in computer technology and will then be more likely to incorporate computers as part of their new teaching profession.

7.2: Education Queensland and 'Schooling 2001' Project

There is a need for more direct communication between Education Queensland and individual LOTE teachers so that concerns about technology and teacher requests can be presented in an adequate way. In such an important and expensive initiative such as 'Schooling 2001' Project, it is essential that Education Queensland works in collaboration with schools in order to share in the progress of the project so that necessary action can be taken to overcome any potential obstacles. A recommendation is thus made to Education Queensland to conduct formal monitoring and evaluation processes of projects such as 'Schooling 2001' especially if large amounts of funding have been invested into them. The success of projects like 'Schooling 2001' can lead to improved student learning outcomes, in an education appropriate for the Information Age of the 21st century.

From the study, it appears evident that Education Queensland's projects, like 'Schooling 2001', require more than financial outlay to achieve success. For teachers to embrace computer technology into their classrooms, many long held teaching practices and beliefs may need to be challenged. Guidance and support are needed so that teachers can slowly establish desirable educational practices which incorporate computer technology. Teachers also need to know that they are working in tandem with Education Queensland, as part of a team. Many teachers in the study reacted adversely to being given directives from Education Queensland in a 'top-down'

approach without teacher consultation and/or sufficient support.

8. FURTHER RESEARCH

This article acknowledges that the sample of the study was very small. However, it has been effective as a pilot study and could act as a reference for any potential future research on a broader scale such as all LOTE teachers across the whole state of Queensland.

Not mentioned in depth, as it was considered out of the scope of the study, was the analysis of the LOTE teachers' current instructional methodologies and any potential connection with the lack of CALL use in their classrooms. Further study in this area may be beneficial in understanding the processes and possible links between instructional methodologies and various aspects of CALL use. Questions such as: 'Are communicative LOTE teachers more likely to use CALL in their classrooms?' 'What is the link, if any, between CALL use and instructional methodologies?' 'How does the use of CALL effect and/or change LOTE instructional methodologies?' 'Which teaching styles and classroom management practices best suit CALL activities?' need to be addressed by further research in this area.

The level of target language used in the classroom by the participating teachers in this study was low. Data from the observation tool show that only five (5) of the twenty (20) teachers used the target language more than English in the lessons. Further research needs to be conducted to find out the reasons why low levels of target language are used by LOTE teachers. Questions such as: 'Why don't LOTE teachers use the target language more often in class?' 'Is there a connection between the low level of target language used in classroom lessons and the proficiency levels among LOTE teachers?' need to be addressed by further research. In-service training should impact upon LOTE teachers the advantages of using maximum target language in language teaching.

As well, authentic materials for classroom teaching were not used by the vast majority of the participating teachers. Data from the observational tool show that only two (2) of the twenty (20) teachers used authentic materials for their teaching. Authentic materials for classroom teaching should be made available to LOTE teachers and the benefits of such use be communicated to the teachers, as well as clear guidelines on how to integrate them in their LOTE classrooms.

More research needs to be conducted into these two important areas of the use of target language in classroom lessons and the use of authentic materials for LOTE classroom teaching.

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