

AN INVESTIGATION INTO DELIVERY OF ON-LINE COURSES WITHIN AN EARLY CHILDHOOD TEACHER EDUCATION DISTANCE PROGRAMME IN NEW ZEALAND

Susan E. Smart

The Open Polytechnic of New Zealand

Sue.smart@openpolytechnic.ac.nz

Abstract

Successive New Zealand governments have acknowledged research on the long term importance of Early Childhood Education. In April 2005 the government launched *Foundations of Discovery*. This initiative, to boost Information Communication Technology within the early childhood sector came with funding of \$NZ16 million. A preliminary investigation into the delivery of online teacher education in the early childhood sector commenced. The purpose of the study was to give an initial indication on the students' access to computers with Internet connection and computer skill level. The student knowledge of online facilities and the support available through their distance teacher education provider were also examined. Students were asked if given the choice of distance print-based or on-line delivery which would prefer.

Results indicated that students had a range of skills and confidence when using computers. These did not fall into any specific age brackets. Equity, flexibility and the necessity of student support were highlighted. Throughout the study these points were given as the main reasons for successful completion of distance online learning courses. The implications were that the delivery of online early childhood teacher education appears to correlate with those in the mixed mode delivered programme.

New Zealand is an open agrarian economy, that could be described as a successful underdeveloped nation, the acknowledgement of early childhood education and the willingness to invest in this part of the education sector may have value to other countries on a similar path.

Keywords: Flexibility; Equity; Teacher Education; On-line

1 Introduction

This preliminary investigation into the delivery of online teacher education in the early childhood sector is the first step in an ongoing project. The purpose of the study was to give an initial indication on the students' access to computers with Internet connection, computer skill level and knowledge of online facilities of their distance teacher education provider and student support. The paper is structured as follows. The first part provides background information relating to the research and its context. This is followed by a description of the methodology used in this quantitative research with data gathered via a set of questions sent out as a questionnaire (Jenkins, 1999). The questionnaire was sent to students enrolled in a distance mixed mode delivered early childhood teacher education programme. At present the mixed mode delivery does not include an online course.

Finally findings are presented. The results indicated that students have a range of skills and confidence when using computers. The investigation also highlighted equity, flexibility and the necessity for student support. The above implications for delivery of distance online early childhood teacher education appear to correlate with those in the distance mixed mode delivered programme. Throughout the literature examined, with regard to this investigation, these points were given as the main reasons for successful completion of distance online learning courses. (Gaide, 2004)

2 Background

In general, research on the use of online distance delivered teacher education in the early childhood sector is sparse. The preparation for the investigation was obtained by examining literature that included the delivery of distance online academic courses as well as the delivery of online teacher education courses. The literature included reasons why students are looking at distance teacher education online, the skills brought to the courses, skills needed and how best to increase these skills and enhance the support.

As a result of the full literature review a further questionnaire was sent out to students. The data from the questions will be used for further research within the institution and early childhood teacher education. The results form a basis for the introduction of online courses into the early childhood teacher education programme. Either by a flexible delivery or blended learning mode having examined fully the issue of equity, skill level and how to support online courses not only from a students point of view but also from the academic and administrative staff's view. (Donaghy & McGee, 2003)

The definition of flexible delivery and blended learning by the distance provider in this study is as follows. Flexible delivery is the provision of learning experiences through a range of delivery mechanisms and media, including but not exclusively, print, online, class-contact and audio. Blended learning is the experience of learning by means of appropriately selected blends of delivery and support media, including but not exclusively, print, audio, online and contact classes. (The Open Polytechnic of New Zealand, 2005)

The opportunity for flexible learning is an approach for providing educational opportunities that focus on the differing needs and circumstances of students as well as offering the potential for enhanced learning and teaching strategies. (New Zealand Teachers' Council, 2002)

Educational applications of new technology have been progressively introduced in many parts of the world, including Aotearoa/New Zealand, over the past three decades (Scheer & Lockee, 2003). These include multi-media delivery of educational material by CD-Rom, pedagogical uses of email, all the way up to structured Web delivered distance learning. Internet delivery is increasing whether it is providing support within a traditional face-to-face classroom, lecture notes or readings on the web, to delivery of entire courses and programmes.

Early childhood teachers require knowledge, skill and confidence regarding Information Communication Technology (ICT). (Berthelsen, Halliwell, Peacock, Burke & Ryan, 2000). Aotearoa/New Zealand's Education Minister highlighted the above when he launched 'Foundations for Discovery' (Ministry of Education, 2005) which is aimed at strengthening the ICT education delivered in early childhood centres throughout the country. These needs should be addressed during pre-service training, allowing graduate teachers to feel comfortable with using emergent forms of technologies effectively in their teaching practices (Hope, 2004). The skill also enables teachers to keep abreast of current knowledge and to solve problems through access to a diverse range of national and international information.

Whilst online learning appeals to almost all students due to the flexibility and convenience it offers, not all students are suited to online learning. Completing an online course requires a lot of self-discipline and initiative. These attributes are also known to be essential for successful distance education. (Kearsley, 2002)

Research has been mainly focused on student achievement there is very little published research on the skills learners bring to online delivered courses. Kemp, Morrison, & Ross (1998) discuss learners' pre-existing skills and characteristics, as well as their attitudes toward modes of instruction and describe how these can impact learner success within an instructional programme.

Online education has greatly increased the educational options available to busy early childhood educators who might be unable to pursue their academic goals in a traditional academic setting because of work and family commitments. (Brabazon, 2002). The flexibility and assumed freedom allowed through distance online learning require increased responsibility on the part of the adult learner to meet deadlines and stay on top of assignments without face-to-face interaction.

Along with the flexibility of online learning one could argue that the system is more equitable as there are no fixed times for study, and that study materials are available to everyone and at anytime. This assumes, however, that everyone who wishes to enrol has access to a computer and an online

connection. By providing the choice of distance online learning within a programme students learning opportunities increase greatly.

Mason & Weller (2001), have shown through their research that students gain confidence and competency if they have an introduction to basic computer skills, applications using the Internet and group working. By group working they are referring to asynchronous discussions, which students can access at anytime. This is supported by Gaide (2004) who lists student orientation as second in a list of ten best practices for helping students complete online degree programmes. Falvo and Solloway (2004) also recommend a face-to-face initial meeting, if possible, to help familiarise students. Student support is pointed out to be a factor determining quality in distance education (Nicols, Fertich & Jacoby, 1998, Scheer & Locke, 2003). Hara & Kling's (2003) study highlighted the need for technical support to avoid student and lecturer frustration.

3 Methodology

The quantitative approach to research used in this study provided a collection of data to represent the student body on a teacher education programme. The questionnaire was the sole instrument for this investigation. The replies were treated anonymously.

All two hundred and seventy students enrolled in the programme were sent a questionnaire via the postal service. Eighty students returned the questionnaires. No reminder or follow-up was undertaken to gain further replies. The questions asked included: access to computer, access to Internet, computer skills and student support relating to the On-line Campus site provided by the tertiary institution. The data from the questionnaires were analysed for patterns of response and emergent themes by using bar and pie graphs. The voices of the respondents have been included in the analysis and discussion section of the report.

All the participants were enrolled in the Diploma of Teaching (Early Childhood Education) programme. The programme is delivered by mixed mode (print-based, face-to-face workshops and teaching practice) distance tertiary education provider. The average profile of a student enrolled in this programme is female, 33 years of age, generally working as an untrained staff member in an early childhood centre, with family commitments. Many are second-chance students with little or no experience of undergraduate education.

4 Results

The limitations of this study are reflected in the results. Further research is recommended within this teacher education programme reflecting some of the aspects, which were evident in the literature reviewed.

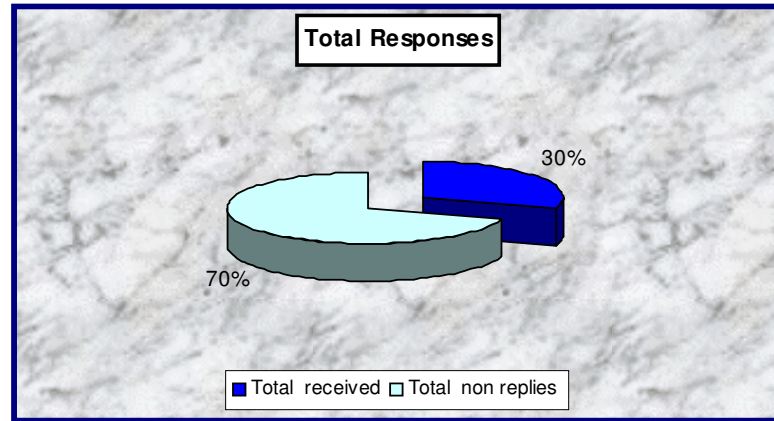


Figure I. Total Responses received

Computer access and Internet Connection

As can be seen in the graph above of the eighty responses seventy nine answered yes to having access to a computer and seventy two had Internet connection, the times of access varied as shown in the graph below.

Out of the seventy two respondents who indicated Internet access one reply indicated although they had access they did not use it; one had access at work only and did not indicate for how long they had access; three did not indicate where they had access or for how long; one had access at home but did not indicate the hours available and one indicated four hours access but did not specify whether the access was at home or work.

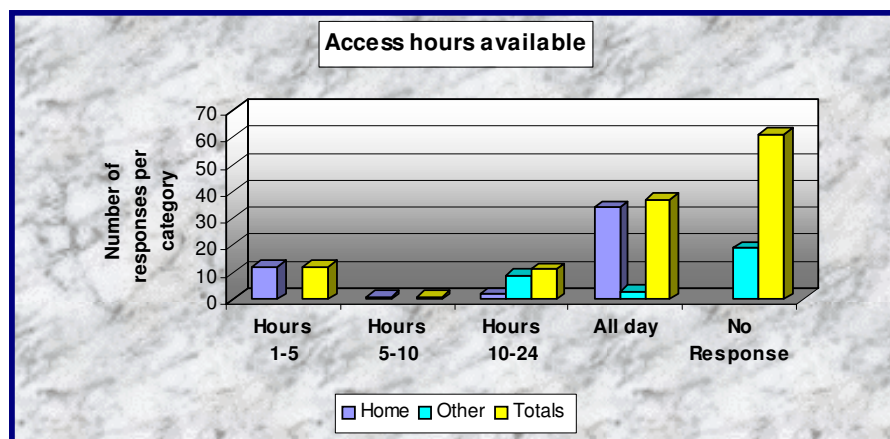


Figure II. Access Hours available

Three respondents pointed out that they had limited access because of the plan they had with the Internet service provider. One replied whilst having a computer and Internet access ongoing technical problems allowed only intermittent use. Only one out of the eighty responses circled 'no' to question number one regarding access to a computer and therefore did not complete the rest of the questionnaire.

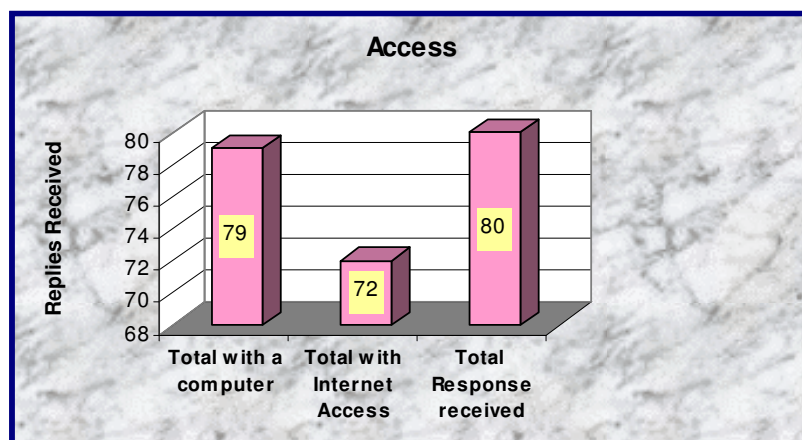


Figure III. Equipment and network access

Student Support

Sixty respondents indicated that a workshop to assist in the use of and how to use the Online Campus provided by the Institution would support their use of the facility. Forty Four respondents had accessed the Online Campus site mainly to use the library facility, five had sent in assignments online. Sixteen of the respondents made comments that they found the site hard to access and several commented that they did not have the time to 'play around'.

5 Analysis & Discussion

Taking part in an online course requires a basic understanding of computers, including applications like word processing, as well as how the Internet works. The analysis of this study shows that out of the eighty replies seventy nine students have computer access and of those seventy two have Internet access. Based on the eighty replies these figures indicate equitable access to a computer and Internet connection. However, some respondents pointed out that they have limited access because of accessibility to Internet connection being controlled by the plan they have signed with their Internet provider or because of difficulties in rural areas.

"limited to 10 hours per month on the internet plan"

"tricky out here in rural area with dial-up connection – don't want to tie up the share line for hours"

Sixteen respondents stated that they found the On-line Campus site too difficult. If students only have a basic level of computer literacy and are not

comfortable using computers, online courses will not be enjoyable and more than likely become a source of frustration.

“The thought of online use is appealing but my lack of computer skills is off-putting.”

“Used it once – took too long to load then couldn’t find what I wanted”

A great deal of research has looked at the level of student support involved in quality delivered successful online courses (Nicols, Fertich & Jacoby, 1998; Falvo & Solloway, 2004; Gaide, 2004). One respondent commented, “find it difficult to get around would like specific help”

Ideally, technical support should be provided by a central, institution wide helpdesk open seven days a week for extended hours to address general hardware and software problems. Problems specific to individual course content would need to be handled by an academic member of staff. Hara & Kling (2003) state technical support throughout the course is also seen as essential for both students, academic and administrative staff. One respondent’s reply included “It would be great to have the library open during the weekend as a lot of students work during the week and do their study at the weekend. If you have a question you have to wait till the library opens on Monday.”

Provision of an introductory course or an initial meeting is highly recommended at the beginning of an online course between the students and the lecturers. (Mason & Weller, 2001). Sixty respondents identified that they would find a workshop, which, included some online training useful. “I feel that an Online Workshop would be a good thing” “Yes, I think some hands-on ‘stuff’ at a workshop would be really helpful in getting some of us who are not so computer literate into the On-Line Campus” Several of the respondents mentioned that they had been given some guidance at the Introductory Workshop (a compulsory component of the programme) held at the beginning of the teacher education programme. “ At my introductory workshop we had Donald from the library speak to us about how to get the best out of online enquiries, it was a most enjoyable and informative discussion and encouraged me to use online campus”.

For those students who have access to a computer and the Internet, have self-discipline, study skills and are comfortable using computers online course are desirable. “The On-Line Campus is very easy to understand and the steps are easy to follow”. These results imply that while basic computer skills are fairly common, intermediate to advanced skills are not.

Rovai (2002) states that the physical separation of students in programmes offered at a distance may also contribute to higher dropout rates. Providing courses online with asynchronous forums can help alleviate this by providing collegiality and a vehicle for collaboration between students. Research provides evidence that strong feelings of community may not only increase persistence in courses, but may also increase the flow of information among all learners. (Wellman, 1999) By introducing online courses as part of

the flexible delivery offered by the provider in this study students can have an increase in contact with other students, if they wish.

6 Discussion & Conclusions

Tait (2000) argues that the whole process of devising a distance education programme should start with identifying who the students are and identifying their needs. Distance education and computer assisted instruction currently affect only a small proportion of students in teacher training programmes in Aotearoa/New Zealand.

Technology adoption in education is often driven by factors and agendas only remotely connected to the needs of the learners. These factors can include commercial interest, organisational politics, administrative cost reduction priorities, a need to increase enrolment, reaching large geographic areas and other non-pedagogical imperatives. (Lieberman, 2002). Hanna (1998) reported that traditional non-profit universities were being pressured by competitive market forces into providing Internet-delivered or supported courses.

The Aotearoa/New Zealand government is looking at the delivery of initial teacher education programmes and the providers of these programmes. Tertiary educators are being required to upskill their own qualifications, as well as being asked to teach to more rigorous standards. When this demand meets increased access to computers in homes, it seems clear that distance online learning for teacher education is a way of the future.

If student characteristics, computer skills, and attitudes toward distance education at an institution are tracked over time, faculty and instructional designers can use the data when designing their courses, thereby supporting more effective and efficient instruction as well as more satisfied and successful students. Knowing students' attitudes and skills may allow course developers to address issues of frustration and non-completion rates.

As a result of research completed on online course delivery there is substantial information on the skills and support required for students to complete online courses successfully. By drawing on this literature and building on the flexibility already provided by delivering courses via distance, online courses can be offered as a part of the early childhood teacher education programme. The programme will begin by introducing courses one at a time and giving print based alternatives. This allows for mechanisms to be put in place to ensure equity and quality support for students and staff. This view is sustained by the enhanced capacity for efficient and widespread use of distance education through advanced electronic delivery systems. (Harris, 1999).

To avoid early childhood teacher graduates entering the workforce and finding themselves working in contexts of which they have limited experience tertiary teacher education institutions have a responsibility to provide the necessary knowledge and skills that reflect the world of Information Communication Technology (ICT). Additional government funding specifically

targeted at the early childhood education sector and training early childhood teachers in ICT is an indication of the way of the future.

By looking at the social constructivism approach emphasised by Vygotsky online courses would seem to suggest the relevance of self- and peer-assessment at least in conjunction with, if not replacing objectivist, reference based forms of assessment. Such changes obviously also imply a changing role for academic staff. As we move out of the transmission-model of learning, the instructional role begins to shift away from being a focus of knowledge and agent of evaluation and more towards that of being a provider of learning opportunities, design and monitoring role.

Reflective practice is one of the dimensions required by the New Zealand Teachers' Council for a 'satisfactory' teacher. Kanuka and Anderson (1998) describe how asynchronous discussions between students and student/lecturer allow time for reflection to occur as a part of the student's cognitive development and allows for the acquisition of metacognitive knowledge and skills. Vygotsky's theory of the "zone of proximal development", the effective intervention of a peer, adult or competent person in the learning of another person, extends into electronically mediated education. McCloughlin, Winnips and Oliver (2000) cited in Phillips (2002); for example, find that asynchronous environments allow us to move beyond "teacher initiated forms of intervention" to "an active, participatory role for students, as initiators and co-participants in (a) self-regulating learning process."(p.121).

Students' computer skills are clearly not constant. Skills rare today may be common two years from now. Regular student evaluations and surveys should be used to update courses and their design. The designers of courses need to keep in mind the wide range of computer skills students bring to the programme and make sure not to overwhelm low skill students or condescend to those with higher skills.

The next component of this ongoing project will need to reflect the literature review, that is, equity, flexibility, student support, and a community of learning. Such data will provide greater insight into students' feelings and expectations after taking distance teacher education courses and online delivery of courses. Adopting a systematic approach to understanding and incorporation of information literacy skill development in undergraduate courses is essential (Bruce, 1998). Early Childhood teachers would then appreciate the importance of information literacy and will be able to provide competent and confident models in early childhood centres.

Over time, more teacher education students as well as tertiary educators and teacher education institutions will become amenable to online education. But, for the present, it is important to think critically whether it makes sense to offer a certain course or programme in online form and not to assume that it will work for everybody.

"Online education is celebrated for its flexibility – students can be educated in their own home, in their own time." (Brabazon, 2002, p112).

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