The Role of Computers in Community Health: Linking Tuition with Student’s States of Health

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Abstract
This study discusses the role of computer tuition in community health. The aim was to investigate a link between attending computer tuition lessons and the consistent self-reporting of improved student health. The study’s question explored how older students’ experiences of undertaking computer tuition are understood and how these experiences were related to self-reports of their well-being. Also asked was what insights can be gained from such understandings to improve computer tuition delivery and content? The primary data collection was a two year period of student tutor observations. Then fifteen semi-structured interviews and tutor researcher group discussions to confirm the consistently observed phenomenon of improved student health reporting, as a consequence of coming to lessons, was done. Using Grounded Theory methods of data comparison and category development, a theory emerged. It suggested the way computer tuition is practiced at the centre has a role in community health. Learners reported improvements in their health and well-being from attending classes, which were attributed to the tutor’s teaching methods and instructional style. This was evidenced by the results indicating that specific tutoring methods, such as displaying consistent patience, repeating details and reassurance, are central to a problem-solving approach of teaching computer skills. The students reported coming to lessons solved their technological and social isolation problems making them feel more confident about managing stressful issues with electronic technologies. Findings can be used by educational bodies to show the exact types of tutoring qualities tutors and instructors can employ to improve older students’ general health states.

Research questions and context
This paper reports on a study of the role computer tuition has on student’s health in one community centre. The proposal was to investigate and describe a possible link between students’ self-reported health states and the way computer tuition was practiced. After obtaining permission to be an onsite researcher in 2002, two questions were developed:

1. How can older students’ experiences of computer tuition be understood, and how are these related to self-reports of their individual well-being?

2. What is gained from such understandings that may improve the delivery and content of computer tuition for older students?

This research was motivated by the observation that students kept reporting that they felt emotionally and physically better by attending lessons. Teaching older Australians to use technology has become a priority for governments and training institutions as internet and computer technologies permeate much of society. It is suggested that older Australians find not being able to use technology stressful (Queensland Health, 2004). Yet accessing appropriate technology training and reaping health benefits from training remains a problem. Older people’s goals and abilities are often neglected when developing computer courses (Mayhorn et al, 2004). This research explores what reasons may account for improved health
reporting, as well as strategies training institutions can be aware of when tutoring older adults in computer skills.

Methods

Strauss and Corbin’s (1998) Grounded Theory was the chosen methodology. I conducted two years of observing tutor and student interactions during and after lessons. Fieldnotes were taken during these observations. After ten months I began semi-structured interviews with fourteen people over fifty years of age attending lessons. All ethical clearances and interviewee privacy guidelines were implemented. In forming interview questions I sought participants’ views on their experiences with tuition, technology and the effect coming to lessons had on their lives.

Transcribed fieldnotes and interviews were analysed using the Grounded Theory category and theme development approach. The open, axial and selective coding processes of data were undertaken, as was constant comparison of fieldnotes with interview data. Line by line reading of notes and interviews was undertaken after transcribing them and emerging ideas written down in memos. Data was analysed by manual methods and use of N6 computer software.

Care was taken to address Grounded Theory’s rigor and validity criticisms. First, theoretical sampling, the continuous analysis of data to guide further sampling (Strauss & Corbin, 1998) was followed. These allowed ideas to be revised and reviewed at regular intervals. Second, I discussed ongoing results with the centre’s management and tutors to get their views on the emerging theory. Third, as Strauss and Corbin (1998) suggest, to improve the understanding of emerging phenomena draw on established literature to assist in defining and explaining concepts. The concept which kept repeating in describing the students’ health states I called ‘well-being’. To clarify and describe this concept a definition of well-being by Davidson et al (2003, p. 529) was used:

‘Well-being is a state of successful performance throughout the life course integrating physical, cognitive, and social-emotional functions that results in productive activities deemed significant by one’s cultural community, fulfilling social relationships, and the ability to transcend moderate and psychosocial and environmental problems.’

This definition assisted with supporting the emerged theory and category naming. It gave well-being a formal understanding as a category, but the elements of the definition were not imposed as categories on the data. Instead it acted as a base to suggest types of qualities that make up what well-being might be.

Results of study

A theory emerged from the data to suggest why students self-reporting better health states from attending lessons. This was the way computer tuition is practised at the centre does have some role in community health. Students reported an improvement in their overall health from attending classes, where tutors’ teaching methods, style of instruction and solving student problems contribute to reports of improved health. The reason for labelling reported better health states ‘well-being’ was because it illustrated the persistent reporting by students...
of how solving computer problems eased personal stress with technology and overcoming social isolation. Evidence supporting this category is now discussed, with the main category ‘well-being’ having the main dimensions of learning, teaching, social interaction and problem solving.

Learning

‘Learning’ as a dimension of well-being is any practical action or strategy undertaken by the tutor and student to gain skills and knowledge. These are not just learning computer skills, but learning how to manage technology in daily life. The students formed a mostly positive view from the lessons because tutors keep the lesson content individual and tailored to student needs as these examples illustrate:

Because of the one on one. And as I mentioned, anything I do not understand or, you know, John will show me again and I find that most helpful.

Probably the fact that it was a one-on-one basis rather than group lessons. I find group lessons and the fact that I can choose what I want to learn here, where I can quote if I go to a group you have to follow what they want to tell you and I not interested in

This data suggests individual lessons give the student the choice to explore computer issues they want. This is viewed by students as a successful strategy employed by students. In turn they produce favourable views of the lessons because less pressure is on the student to learn material quickly.

Teaching

The dimension ‘teaching’ means imparting information to students and facilitating knowledge and skill acquisition. The techniques tutors use and the way they use them are based on a problem-solving approach and increasing confidence with computer use. One tutoring technique the tutors used to improve confidence was reassuring students that there were ways of solving problems that had caused the student distress. For example:

Andrea and John look over the Junk Mail folder. Andrea notices that you can pay for Hotmail. Andrea: I thought Hotmail was free? John reassures that it is not the case to pay for it and that paying money to them is just for more data storage.

Lots of icons on screen. Linda starts deleting icons with John’s guidance. John comments on the delete procedure: there is always a backup.

Giving this degree of reassurance encouraged the student to become comfortable with using computers. The tutor told the student there are ways to solve operational problems should a particular action fail. In example three the student felt unable to use the mouse correctly. But the tutor reassured the student that the person was in fact doing well and mistakes were a part of learning computer software. This was a crucial strategy to use if the tutor noticed words and actions of the student which suggested the student was worried by what was occurring on screen.
Social interaction

One repeating dimension of well-being was termed ‘social interaction’. This refers to students having verbal contact with other people either at the centre or online. The tutors had the ability to teach skills to facilitate social interaction amongst the students and give them knowledge and skills to make contact with others in a physical or online setting. Because the centre’s students live in geographically dispersed areas, they have reported having difficulty keeping in contact with family and friends. Much research suggests links between social isolation and increased depression is prevalent in later life (Alpass & Neville, 2003). The centre teaches interaction skills to overcome such isolation using email and chat room programs. The lessons also put students in contact with other groups at the centre and in the community. These interview examples illustrate how the student had been taught skills to maintain contact with people successfully:

I'm really interested in using the Internet and sending e-mails, mostly sending e-mails (pause) which my family, I'm not very good at letter writing and I find it so easy, and I keep in touch with my daughter in the UK and I used to live in Kenya and keep in touch with friends there. So it’s very, very good. Yes, yes, because I probably would not write letters to them.

Yes I use that to send emails to my family in different parts of Australia and locally. I send emails to my daughters and sons. They in turn send me emails back with photos of the family; that’s the main reason for sending emails to keep in contact with family. I’ve learnt how to send emails with attachments so you can send recent photos of your family through, on the net.

Students valued being trained in electronic communication techniques. Several reported facing the problem of communicating and keeping contact with geographically distant family and friends. Having these skills increased the level of contact they had with people.

Problem solving

Commonly, most training institutions have set texts and topics on computer studies. These may not concentrate on problems students have with specific software. The next dimension of well-being, ‘problem solving’, concentrates on the individual problems the student deems significant to solve. The tutor solves a problem using available technology, resources and colleagues that gave a successful outcome of the situation. For example:

For instance at the moment I've got a small hard drive on my thing and I'd like to put a hard drive in and although I've got a friend to do it for me I'd like to find out how do it myself and because these books confuse me with all this gobbledygook instructions confuse me I'm not too confident about doing it myself, but I would like to bring it over here and get help on installing, which they do.

Yes I use that to send emails to my family in different parts of Australia and locally. I send emails to my daughters and sons. They in turn send me emails back with photos of the family, that’s the main reason for sending emails to keep in contact with family. I’ve learnt how to send emails with attachments.

The students’ approached the centre to learn a medium to overcome the problem of keeping in contact with geographically distant family and others. However, the tutors have been
viewed by the students as successful in teaching them this skill in using electronic mediums including costs and online etiquette techniques. When students encountered problems using email software or chat rooms the tutors solved it quickly, using clear explanations of procedures. Being taught how to send photos as attachments was a particularly highly valued skill students felt overcame issues with social and geographic isolation.

**Implications for computer teaching and encouraging well-being in older students**

The main benefit of this study is that it suggested appropriate tutoring techniques that can be used to teach older students computer skills. Listening to student’s experiences yielded a common set of themes of what older students’ value in terms of tuition practices. Each student gave specific and detailed reasons for what they viewed as successful tuition. The data examples illustrated specific tutoring techniques that solved students’ technology problems. Good learning and teaching techniques, combined with techniques to overcome social isolation and solve problems were all examples of what was perceived as good tutoring practice. These results also suggest the tutoring practices had an indirect but salient role on student health. By remedying student computer issues using problem solving approaches, students reported they felt personally better physically and emotionally. Tutors performed well in training students, from the students’ views, to achieve success in solving computer issues and overcoming social isolation. Consequently, students felt more confident about their computer skill level and an ability to use technology to overcome their individual issues.

The insights of this study can be used by tutors and training institutions because they suggest effective ways tuition can be practice with older students. Awareness of these students’ abilities and goals can be incorporated into the delivery of content. For example, the tutor should acquire skills of reassurance and patience, not assuming the student has prior knowledge of the area. The results indicted that these skills are valued by older students. They were also examples of micro practices that tutor should be aware of when tutoring older students. If these skills are practiced it is likely positive views of technology will result. This will help the students’ daily interactions with technology that were previously deemed stressful to them. It is possible that using such practices will impact on the student’s reported sense of well-being as confidence with technology use and increased social contact occur.

**Summary**

This study has suggested that reported improved health benefits can be related to effective tutoring practices. The role the tutors play in student health came primarily through performing practices that took into account solving many problems students had with technology. The findings suggested tutoring methods, such as displaying consistent patience, repeating details and reassuring students during lessons, are central to a problem-solving approach of teaching computers. What this study illustrated were possible reasons why improved student well-being is reported because problems of technology use and social isolation are overcome. Consequently, the study has also suggested, by listening to student stories of their interactions with the tutors, methods training institutions can use to train this growing age group.

**References**


