Chapter 11
Ethical Concerns in Usability Research Involving Children

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ABSTRACT
This chapter examines the issues in conducting ethical usability testing with children including the special complications presented by the unique characteristics of children. It outlines the process of gaining approval of overseeing bodies to conduct research with children and discusses the difficulties in gaining informed consent from teachers, parents and the children themselves; protection of the research subject from harm and the difficulty of empowering children to instigate their right to refuse to participate in the research project. The chapter also discusses practical issues regarding the research design such as age appropriate practice, the duration of testing and recruitment of participants.

INTRODUCTION
There is a trend towards the respectful inclusion of children in the research process because they are a significant group within the community (Flewitt, 2005). It is important to conduct research with children as they can reap significant benefit from these research activities when the results are applied. Furthermore, the findings from research conducted on adults cannot always be assumed to apply to children because of their different preferences and needs which can only be established by conducting research on children directly. According to the Australian National Statement on Ethical Conduct in Research Involving Humans, “Research is essential to advance knowledge about children’s and young peoples’ well-being” (2005: 4.1). It is by researching children that their voices can be heard and their preferences can be taken into consideration (Burmeister, 2001). In educational research children who participate in the research process are considered valuable as their preferences for learning could be considerably different to adult learners. Hedges states, “Views of children affect
the content and process of the education they receive and ways they are researched” (2001: 1). As children are increasingly exposed to more technology, it is important to conduct research specifically in this area.

Interaction design for children is a field associated with the more extensive field of Human-Computer Interaction and investigates specific issues in relation to the design and development of software for children with regard to their unique requirements. Druin and Hourcade note, “It is critical to consider how to create new technologies for children that are easy to use, age appropriate in content and interface, and foster exciting learning experience in and out of the classroom” (2005: 34). Children are a significant subgroup of computer users as they use computers in the home and at school. Children have different characteristics to adult users including: their physical and intellectual ability; likes and dislikes; knowledge of the world; attention span and motivation. To develop software that meets the needs of children, it is necessary to conduct research into their preferences and abilities and to test specific applications on children as representative users of computer interfaces (Burmeister, 2000). Plass states, “Interface design is the process of selecting interface elements and features based on their ability to deliver support for the cognitive processes involved in the instructional activities facilitated by the application” (1998: 39). The design process involves selecting the instructional activity to support the competence or skill that the learner is supposed to acquire. In order to design appropriate software for children, it is important to be aware of their special needs.

**THE COMPLICATIONS PRESENTED BY RESEARCHING CHILDREN**

Gaining data from children can be complicated by a number of characteristics that children may exhibit; although not exclusively characteristics of children, they are more prevalent in this group. Read and MacFarlane state, “Factors that impact on question answering include developmental effects including language ability, reading age, and motor skills, as well as temperamental effects such as confidence, self-belief and the desire to please” (2006: 82). The language and concepts used in questions are really important to the results.

For example, when Ellis (2008) was researching children in preparatory classes, they were asked to name their most favorite and least favorite activity in an e-learning software application. Over forty percent of children selected the same activity for both, showing they either could not make the selection accurately or they did not understand the concepts. False data may be collected if the children make up answers in order to please the interviewer or if they tell the interviewer what they have been told by adults, rather than giving their own opinion (Hedges, 2001). Therefore when it is possible to collect the same data from a number of sources, this should be instituted. For example, when Ellis (2008) was collecting data regarding children’s preference for characters between a female presenter, a super hero and a puppet, the kindergarten children were able to work with each character for one session. In the next session, they were able to select the character to take the session. When this preference for character was compared with the character that the children stated was their favorite, twenty-five percent changed their preference dependent on the method of asking.

It is also important to use well trained researchers, as young children may have limited ability to express themselves verbally and the accuracy of the data is dependent on the researchers’ ability to understand the child (Hedges, 2001). Reactivity is the term used to define when research participants react to being studied. Kellehear and Allen state, “if people know that they are being observed this can alter their behaviour (reactivity)” (1993: 135). Similarly, McMurray, Pace and Scott explain, “if people are aware of being observed,