EXECUTIVE SUMMARY OF RESEARCH PROJECT

Title: The use of multisensory environments (MSEs) in the education of students with high support needs.

Principal researchers: Dr Jennifer Stephenson and Dr Mark Carter, Macquarie University Special Education Centre, Institute of Human Cognition and Brain Science, Faculty of Human Sciences, Macquarie University.

Precis of research: The first phase of the project involved in depth interviews with school personnel in two special schools. We interviewed persons knowledgeable about the history and use of the MSE in their school, and teachers who were using the room to uncover perceptions of MSEs. We sent out a survey to all special schools in NSW enrolling students with severe intellectual disabilities to determine the prevalence of MSEs in schools and to collect information about MSEs and their use.

Importance of the research: There is general agreement that schools and teachers should make use of effective instructional practices in the education of students with high support needs. MSEs are an unproven intervention strategy that seemed to be becoming widespread in NSW. It was of interest to discover why schools and teachers were investing in and using unproven strategies, in preference to strategies known to be effective. It was also of interest to discover what teachers were doing in MSEs as there was little research on actual use in schools.

The findings should be of great interest to those in NSW DET who would like to promote evidence-based practice and discourage the use of unproven practices. In the absence of advice from DET on the lack of evidence for the efficacy of MSEs as an educational intervention, many schools have uncritically accepted the claims made by commercial firms who install them. The perceptions of teachers about the automatic benefits of sensory stimulation may have lead to a neglect of good teaching practices and critical evaluation of the outcomes of interventions. It is clear that special schools, obviously committed to achieving good outcomes for their students, are operating in a policy and information vacuum when it comes to selecting interventions and are spending considerable resources on this unproven practice. There is a clear need for DET to articulate policies and procedures to support schools in the implementation of effective practices and to discourage the use of resources for unproven interventions such as MSEs.

Research questions: A number of aspects of the installation and use of MSEs were examined in both phases of the study. The first set of interviews with school personnel were aimed at finding out (1) how and when they learned about MSEs; (2) what factors influenced their decision to install an MSE; (3) how they obtained funding for their MSEs; (4) what were their beliefs about the effects of MSEs; (5) what was their rationale for installing an MSE; and (6) how they used MSEs within their schools. The interviews with teachers who were using MSEs were aimed at finding out (1) what teachers perceived as the benefits of the use of an MSE; (2) what problems teachers encountered; (3) How
teachers used the MSE and the equipment in it; (4) How teachers programmed for sessions in the MSE; (5) What outcomes teachers observed and (6) How teachers learned to use the MSE. The survey in the second phase of the study addressed the issues of (1) the history and funding of the MSE, (2) reasons for installation, (3) sources of information considered in decision-making (4) types of equipment installed, (5) processes for educating staff in the use of the MSE, (6) ways in which the room is used, (7) perceived benefits to the students and (8) problems or disadvantages associated with the MSE.

**Research design:** The first phase of the study comprised in depth interviews with school personnel, including teachers who were using the MSE. The interviewees were drawn from two special schools who were known to have MSEs and who agreed to participate in the research when approached. The interviews for teachers included the viewing of a videorecording made of their class using the MSE, so questions could be asked about actual observed teacher practices. All interviews were conducted by a research assistant, guided by a set of interview questions, at a time and place chosen by the school. Interviews were transcribed and the transcriptions checked by the interviewees. The transcripts were analysed using the TAMS analyzer to extract both factual information and themes. The first coding was carried out by the first researcher, and was reviewed by the second before final agreement. This phase of the study was more qualitative in order to gain some understanding of school and teacher perceptions of MSEs as well as factual information about costs and equipment to inform the design of the survey.

In the second phase of the study, a survey was sent to all special schools enrolling students with severe disabilities in NSW. Principals were asked to have the survey completed anonymously by someone knowledgeable about the MSE in the school. Schools who did not have an MSE were asked to indicate that and to return the survey. This study enabled us to ascertain the prevalence of MSEs in NSW schools and to get a general understanding of the resources invested in them, rationales for their installation, beliefs about their effectiveness, the ways in which they were used and how teachers were educated about how to use them.

**Research findings:** Both schools in phase one were early adopters of MSEs. One had spent around $100,000 and the other around $50,000 on the MSEs. Interviewees from one school believed that sensory stimulation was beneficial and the other that the MSE was inherently beneficial because of its calming effects. Both were keen to describe their MSE as an educational resource, rather than as a passive leisure experience. Both schools agreed with claims that MSEs provided a distraction-free environment, could relax students, and had motivational effects on students. School interviewees claimed MSEs could be useful for assessment, but teachers did not appear to use them in that way. Neither school reported any awareness of the research literature on MSEs, or of books promoting their use. Teachers largely agreed with the broad positions taken by their schools and endorsed claims made by proponents. Teachers reported little in the way of pre-planning or programming for sessions in the MSE and described few teaching strategies (only shaping, prompting and
modeling were mentioned). There was little reported in the way of direct teaching of functional skills (choice making, switch use and communication were most mentioned) and there was an emphasis on teaching students to use the equipment. No teacher described any form of regular monitoring or of program evaluation.

A total of 36 schools returned surveys (a return rate of 72%) and of these 36, 19 had an MSE, confirming the widespread use of MSEs. The survey broadly confirmed the findings from the interviews. Schools installed MSEs because of advice from other schools that already had them, because of a philosophical commitment to multi-sensory approaches and because of advice from therapists. Information about MSEs came from other schools and from suppliers and research was not typically considered. The most commonly reported uses were to provide an enjoyable experience and to calm anxious students. The benefits commonly reported were sensory stimulation, relaxation and anxiety reduction. About a third of schools reported receiving advice from NSW DET personnel, presumably also unaware of the lack of empirical support for MSEs. The policies, procedures and staff training processes in schools varied across schools. Overall schools reported a lack of focus on teaching specific or functional skills in the MSE and a belief in the value of sensory stimulation, even though there is little research to support this belief and a lack of a plausible theory to explain how sensory stimulation results in the range of claimed benefits.