



## *Methods*

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Computerized databases, including PsychInfo and Proquest, were searched using the following search strategy:

((alternative communication) OR (augmentative communication) OR (Severe Speech and Physical Impairment) OR (AAC) AND ((reading development) OR (literacy development)) AND ((cerebral palsy) OR (CP))

The search was limited to articles published in English between 1990 and 2007. This strategy was generally unsuccessful. However, reference lists of articles identified through the databased strategy were searched for further relevant publications. As well, a review of relevant peer reviewed journal indexes and a reference list from a presentation given by an expert in

of descriptive statistics, the Chi Square Test for Independence, and a recognized method of qualitative analysis. The authors reported that in general there was no significant difference between the reading and writing environments between groups. However, it was reported that the children in the AAC group, compared to their non-disabled peers, had less opportunity to use printed materials or to participate in writing/drawing activities and during story reading activities they seemed to be less involved in initiating and asking questions about the text. As well, there was a difference in parental priorities for their child's development. The parents in the AAC group identified reading and writing as a low priority for their children, whereas the parents of the nondisabled group selected reading and writing as a high priority for their children.

students who were severely multiply disabled, and included physical, visual, speech, hearing, and perceptual impairments. Data collection inlab5y4d

Overall, survey research is an indirect and less compelling approach used to gather information; therefore the information obtained must be interpreted with caution. Due to the nature of the population studied, it was not possible for either by Kopenhaver, Evans, & Yoder (1991) or Light & Smith (1993) to employ random sampling of their participants. The Kopenhaver, Evans, & Yoder (1991) study used a modification of the snowball technique to recruit, where they contacted professionals involved with AAC users who then recruited appropriate AAC users for the study. The Light & Smith (1993) study employed the less desired opportunist technique where they selected the AAC group from the caseload of a children's treatment centre. However, both studies submitted drafts of the questionnaire to professionals in the field as well as to the targeted population and the questionnaires had acceptable response rates (62%-75%). Both studies also used accepted methods of data collection for both qualitative and quantitative data and demonstrated good interrater reliability rates. A strength of the Light & Smith (1993) study is that a control group was included in their survey which allowed statistical measures of significance to be determined. The Kopenhaver, Evans, & Yoder (1991) study could only report descriptive statistics such as means and modes. A strength of the Kopenhaver, Evans, & Yoder (1991) study is that possible limitations were noted, such as the reliability of the data as it came from introspection over a long period, the relevancy the experiences of these individuals due to social changes and advances in technology, and the interpretations of the data based on research with the nondisabled population. The Kelford & Smith (1993) study did not directly list any limitations.

#### Qualitative Research Studies:

Mike (1995) conducted an ethnographic study of one classroom at a school for children with cerebral palsy. The purpose of the study was to describe and explain the factors that impact on literacy learning within the classroom. The classroom contained five

child was marginally outside the normal limits for the BPVS. On the CAVAT, both children scored significantly below the average range. For the informal language tasks, both children were able to complete the tasks but their language was not syntactically correct and they required additional time to complete the tasks. The author identified possible factors which may have contributed to their literacy success. Both children had relatively good hand abilities and one child's speech was intelligible enough for functional communication. Neither child presented with any auditory or visual acuity problems nor perceptually based reading difficulties and both children had typical receptive language abilities. It was also reported that both children enjoyed reading and had a high level of motivation to achieve in this area. Both children utilized AAC systems using printed words, came from homes where reading was valued and positively reinforced, their parents visited libraries and bought books for leisure reading, and their parents reported that reading was their favourite leisure activity

The value of qualitative research is often debated; however, it has become increasingly acceptable to use qualitative research within the evidence based practice movement. Properly conducted qualitative research can provide insight into events or populations that are difficult to study using quantitative research (Greenhalgh, 2006). The studies by Mike (1995) and Zascavage & Keefe (2007) are good examples of high quality qualitative research as they had numerous methodological strengths. The Zascavage & Keefe (2007) interview study used a snowballing method to select participants and sought diverse demographics to reduce bias. A variety of participants were included to establish triangulation of results and the in-depth interviews were limited to 20 participants based on literature recommendations. The interviews were conducted until the participants felt the topics were saturated and the transcripts were analyzed using a thematic analysis and then coded using the constant comparison method. Results were also compared to current research in the field and a negative case analysis was used to scrutinize any discrepancies. The ethnographic study completed by Mike (1995) had a small sample size (n=5), however was selected because it was viewed as a classroom where literacy was well promoted. A variety of measures were used to obtain data which allowed for triangulation of the results. The author also acknowledged possible reflexivity. The length of the study or how the saturation of data was determined was not detailed. Zascavage & Keefe (2007) and Mike (1995) have demonstrated considerable validity in their results, but only fair reliability, as both studies did not use blinding during the analysis of data which would have reduced potential researcher bias.

The conclusions of the qualitative case study conducted by Smith (1992) should be interpreted with caution. The study included only two participants, thus limiting generalization to the population of children with SSPI who use AAC systems at large. The two participants were described in detail and their skills in the specific tasks were assessed using a combination of objective and subjective measures.

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