DO INDIVIDUALS WITH SEVERE TO PROFOUND INTELLECTUAL DISABILITIES HAVE PHONOLOGICAL AWARENESS SKILLS, OR THE ABILITY TO ACQUIRE THEM?

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ABSTRACT

This pilot study aimed to investigate whether individuals with intellectual disabilities (n=4) had any evidence of phonological awareness (PA) skills, or the ability to learn them, looking specifically at rhyme recognition, phoneme detection, phoneme deletion, and phoneme segmentation. Participants were assessed for current PA skills by conducting an assessment prior to intervention. Participants then attended four 45-minute intervention sessions focusing on the selected PA skills. A post-test was conducted to determine the effects of the intervention on participants' PA skills. Results indicated that participants had an overall improvement post-test. This suggested that individuals with intellectual impairments have the ability to acquire PA skills.

INTRODUCTION

Phonological Awareness (PA) is an understanding of the individual sound constituents which form words. PA skills include a number of tasks such as rhyme recognition, naming the initial, medial or final sounds in words (phoneme identification), saying words without the initial or final sound (phoneme deletion), and breaking words into their individual sounds (phoneme segmentation).

St Patrick’s Special School caters for students with severe to profound intellectual disability, aged between five and twenty years. Currently, the curriculum for older students involves teaching reading skills through functional reading and acquiring sight vocabulary through the whole word approach. This method teaches students to associate written words with their spoken form (Farell & Elkins, 1995). Recent research, however, has questioned using only the sight word approach, proposing that individuals with intellectual impairments may in fact benefit from the teaching of PA skills in the acquisition of reading (Buckley & Byrne, 1996; Cupples & Inacono, 2000; 2002; Gombert, 2002).

METHOD

Participants

Due to the limited time and resources available for this pilot study, only two male and two female school students aged between 15 and 19 from St Patrick’s Special School served as participants in this study. Each student has a diagnosis of a severe intellectual disability.

Materials

As students with severe intellectual disabilities can have difficulties maintaining attention to complex information, participants were assessed on a small range of phonological awareness skills that varied in complexity (Paul, 2001). The four skills assessed in order of difficulty according to Catts (1991) included

1. Auditory Recognition of production of rhyme
2. Initial phoneme recognition
3. Initial phoneme deletion
4. Segmentation

Following the pre-test, four 45-minute group intervention sessions were conducted. The sessions targeted teaching each of the four specific phonological awareness skills. Materials for sessions included magnetic lower case letters of the alphabet, magnet boards and work sheets. Teaching was structured to maximise use of visual information to facilitate discussion or explanation, comprehension and participation. The number of group intervention sessions was limited due to research time limitations and school timetable constraints.

At the end of the intervention period, participants were assessed using the post-test therapy assessment format which utilised the same scoring procedures as the pre-test in order to make comparison of scores possible.

RESULTS

Mean participant scores for pre-test and post-test were compared (see Figure 1). Although findings are based only on qualitative comparison of mean scores, results support further investigation into teaching of PA skills to support literacy acquisition for students with intellectual disabilities. Scores on the post-test indicated an overall improvement, with an increase of mean participant score from 31.5 (SD=13.99) to 41.25 (SD=19.48) out of a possible score of 80.

Three out of the four participants improved in the post-test (see Figure 2). One participant (1) showed a minor decrease in overall post-test score. This can be related to post-test conditions, in a noisy environment.

For individual phonological awareness skills, results showed improvement in three out of the four skills assessed.

The overall picture from the results supports the hypothesis that individuals with severe intellectual disabilities do have phonological awareness skills or at least the ability to acquire them. There was an overall marked improvement across all participants scores for all subtests thus supporting the notion that PA skills can be acquired. The segmentation subset is of particular significance as none of the participants were able to demonstrate skills in segmenting at pre-test assessment. The participants’ mean score rose from 0 out of 10 to 3 out of 10 as a result of intervention. There was evidence that participants applied strategies learnt during intervention sessions to post-test questions in order to attempt answers. Similar proof of this was apparent in participants’ attempts to complete the phoneme deletion and rhyme detection subtests. There was a distinct overall improvement on the subjects’ mean score for both of these subtests.

In the phoneme deletion subtest (see Figure 4), the participants’ mean score in the pre-test improved from 3.125 (SD=3.4) to 4.5 (SD=4.87) in the post-test.

In the rhyme recognition subtest (see Figure 5), the mean pre-test score was 5.75 (SD=2.55). This increased to 6.625 (SD=1.6) in the post-test.

A slightly unexpected result was the decrease in post-test scores for the phoneme detection subtest (see Figure 6). Scores decreased slightly from a mean of 6.88 (SD=1.89) in the pre-test, to 6.25 (SD=2.45) in the post-test.

DISCUSSION

The standard deviation measures indicate that there was high variation between individual participants’ abilities to acquire PA skills on all subtests. From this it cannot be generalised that individuals with a diagnosis of a severe intellectual disability possess the same PA skills or the same rate of PA skill acquisition, as some participants presented as being more capable than others. Further research might examine the extent to which individuals with intellectual disabilities and normal developing children acquire particular PA skills varying in complexity and at what rate. Research could also be directed toward investigating the benefits of a wider range of PA skills. It would also be valuable in future to include a larger participant sample over a longer time frame so as to allow for an extended intervention period and more investigation into effective intervention methods.

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REFERENCES