Attitudes of Preservice Teachers Towards Teaching Deaf and ESL Students

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Abstract: This study explored preservice teacher attitudes towards teaching a deaf student who uses Australian Sign Language (Auslan) compared to a student who is new to Australia and speaks Polish. The participants were 200 preservice teachers in their third or fourth year of university education. A questionnaire was created to measure attitudes, and participants were also asked to list teaching strategies they would use with the two students. A factor analysis yielded two subscales: Teacher Expectations and Teacher Confidence. Results showed that teachers had higher expectations of the Auslan student than the Polish student, and were more confident about teaching the Auslan student. Differences between the two conditions were also found for suggested teaching strategies. The findings have implications for teacher education programs

Introduction

Teachers of mainstream classes are increasingly required to include students with diverse communication needs in their classrooms. In Australia, the majority of children with any degree of hearing loss are included in mainstream classrooms whether they rely on speech-reading, residual hearing, or sign language (Hyde, 2004; Hyde & Power, 2003; Napier & Barker, 2004). Deaf students who use Australian Sign Language (Auslan) as their first language are likely to have similarities to other students who are learning English as a second language (ESL), since both groups of students attend classes that are not in their primary language. The number of ESL students in mainstream schools is also increasing rapidly (Garcia & Cuéllar, 2006). To ensure that inclusion is successful, it is important to examine teacher expectations and attitudes towards deaf and ESL students, and to consider the types of teaching strategies that are most effective with the two groups.

Teacher Expectations of Deaf and ESL Students

Studies have shown that teacher expectations about the abilities of deaf students influence the way they achieve in inclusive classrooms. When teachers expect less or do not encourage full participation in the classroom, this can result in learned helplessness and dependency (Antia, Stinson & Gaustad, 2002). Numerous studies have shown that teachers often have lower academic and behavioural expectations of deaf and hard of hearing students than of their hearing peers (Gaustan, 1999; Sari, 2007; Thumann-Prezioso, 2005). Research has demonstrated also that when teachers become more knowledgeable about the needs of deaf students, their attitudes and expectations are generally more positive, leading to better outcomes for the students (Jarvis & Iantaffi, 2006; Sari, 2007). This finding highlights the potential value of including deaf awareness in teacher education programs.

Similarly, research has demonstrated that positive teacher attitudes are related to better outcomes for ESL students (Youngs & Youngs, 2001). Cho and DeCastro-Ambrosetti (2005) examined attitudes of preservice teachers towards ESL students before and after completing a training module in multicultural education. They found that prior to training, the majority of teachers believed low academic achievement in ESL students to be related to family values and did not consider the potential contribution of school factors. With this attitude, teachers would be unlikely to believe that they could make beneficial changes within their classes, and they would be less likely to make accommodations for ESL students. Although the training module improved attitudes in this regard, many teachers still reported that they did not feel adequately prepared to teach ESL students.

In combination, these studies suggest that preservice teachers may benefit from additional training that focuses on the characteristics and needs of both deaf and ESL students. Such training would help to create more realistic and positive attitudes, to increase teacher confidence and, consequently, to lead to better outcomes for deaf and ESL students.

Teaching Strategies for Deaf and ESL Students

In a review of the support needs of deaf and hard of hearing students, Luetke-Stahlman (1998) published a comprehensive list of teaching strategies. Many of these strategies involved altering communication methods, such as using an interpreter or captioning filmed resources. Other suggestions included improving the listening environment, using simpler syntax, repeating key phrases, identifying who is speaking at all times, and maintaining a slower pace of speech. Visual strategies such as minimising visual noise to reduce eye strain, and providing frequent breaks from attending were proposed, as well as additional strategies including personal assistance from a peer buddy or a teacher aide, training the student in time management and study skills, and checking for comprehension.

Power and Hyde (2003) explored the frequency of classroom adjustments for deaf and hard of hearing students in Australia. The vast majority of students were given preferential seating within the classroom, 69% received some degree of individual instruction, and 56% were provided with a teacher aide. Cooperative learning was reported in 45% of cases and provision of visual resources occurred for 42% of the students. Strategies such as attention to classroom acoustics (18%), pre-teaching essential vocabulary (20%), and rewriting of classroom material (17%) were used less frequently.

Most research about effective teaching strategies for ESL students has focused on the acquisition of English. Studies have shown that the best predictor of language acquisition – and consequently understanding of the content being taught – is when students have opportunities to practise English within meaningful interactions (Gersten, 1999; Haneda, 2008; Lee, 2004; Mickan, 2007). Strategies that allow ESL students to practise English include informal opportunities for meaningful discussion within the classroom (Olivo, 2003), collaborative learning (Oortwijn, Boekaerts, & Vedder, 2008), and encouraging students to practise writing for multiple contexts and multiple audiences (McCarthey & García, 2005).

Aims of the Current Study

The goal of the current study was to explore attitudes of preservice teachers towards deaf and ESL students. By examining the views of preservice teachers, the study aimed to obtain data that could be used to improve teacher education programs. A growing body of literature suggests that the Deaf community shares many common features with other linguistic and cultural minority groups (Lane, 1995; Reagan, 1995; Vernon, 2006) and it is clear from the literature that teacher expectations and attitudes are likely to have a substantial impact upon the successful inclusion of both deaf and ESL students in mainstream classes.

The following specific research questions were addressed: 1) In what ways do preservice teacher attitudes towards deaf and ESL students differ? 2) What teaching strategies do preservice teachers suggest for deaf and ESL students, and 3) In what ways do the suggested teaching strategies differ between the two groups?

Method
Participants

The participants were 200 preservice teachers who were studying their third or fourth year of education at a large university in Brisbane, the capital city of the Australian state of Queensland. Approximately 80% of the sample was female and 20% male, a gender distribution that reflects the greater proportion of females entering the teaching profession. Participants were grouped into five age brackets: 18-22 years (55.68%); 23-28 years (29.73%); 29-35 years (7.03%); 36-45 years (6.49%) and 46 and over (1.08%). More than 86% of the sample described themselves as Anglo-Australian or Caucasian. Regarding teaching areas, 8.51% were studying early childhood education, 45.74% were enrolled in primary education, 2.13% were focusing on middle years, and 43.62% were studying secondary education.

Measure

A questionnaire was developed to explore the ways that preservice teachers view students who have Auslan or Polish as a first language. Polish was selected as the target language because it is relatively uncommon in Australia and does not have as many potentially confounding factors as some other languages. For example, Polish students do not look very different from their peers, and they are less likely to have experienced trauma in their country of origin than those from certain other countries.

A set of items was created based on attitudes that have been identified in previous literature (Antia et al., 2002; Braeges, Stinson, & Long, 1993; Cambra, 2002; Guteng, 2005; Power & Hyde, 2003; Thumann-Prezioso, 2005). Items were designed to measure teacher expectations of the students academically, behaviourally and socially; perceptions that the students could belong in their class; confidence in their own ability to cater for the students; and views about the extent to which they would need to make accommodations for the students. The initial battery of items was pilot tested in a class of postgraduate university students. Based on their suggestions, minor changes to wording were made and items that were considered to be unclear or redundant were removed.

The final questionnaire contained 30 items which were rated on a 5-point Likert scale ranging from "strongly agree" to "strongly disagree". Respondents were asked to respond to the items separately for each of the following two scenarios: "You are informed at the beginning of the school year that there will be a student in your class who is profoundly deaf and uses Australian Sign Language to communicate" and "You are informed at the beginning

of the school year that there will be a student in your class who has just migrated to Australia and uses Polish to communicate".

The questionnaires were randomly counterbalanced so that half had the Auslan scenario first, and half had the Polish scenario first. In addition to the questions about each scenario, participants were asked to respond to open-ended questions about teaching strategies they would use for Auslan and Polish students. The questionnaire also collected demographic information about the participants as well as details of their studies and background prior to teaching, including their previous experience with deaf or Polish people.

Procedure

Questionnaires were distributed during lectures to over 1,000 third- and fourth-year education students. A return addressed envelope was included, as well as a separate slip of paper for participants to enter a draw to win a $100 shopping voucher as an incentive for participation. Of the 200 responses that were returned, 93 had the Auslan questions first and 107 had the Polish items first.

Results
Factor Analysis

An exploratory factor analysis was conducted to identify underlying factors that could be compared between the Polish and Auslan conditions. On an initial examination of the eigenvalues and scree plot, it was evident that there were three strong factors in both analyses, with many smaller factors accounting for far less of the variance. In order to clarify interpretation, a three factor solution was forced. Separate principal components extractions were run for the Auslan condition and the Polish condition, followed by varimax rotations. Both of these analyses yielded three components. The Kaiser-Meyer-Olin Measure of Sampling Adequacy was .85 for the Auslan sample and .81 for the Polish sample, suggesting that the sample was suitable for factor analysis (Tabachnick & Fidell, 2001).

In order to create scales that could be compared between the Auslan and Polish conditions, an item was retained if it loaded on the same component in both conditions. Correlations lower than .4 were not included. As a result, many items were discarded, and only two components were retained, since the third component had just two items that loaded in both conditions.

As shown in Tables 1 and 2, Cronbach's alphas were calculated for the two scales in both the Polish and Auslan conditions. The internal consistencies of Auslan factors 1 and 2, and Polish factor 2 were all high. The internal consistency of Polish factor 1 was lower, however still considered to be moderately consistent according to Whitley (2002). Since the reliability of these scales was assessed as adequate, comparisons were able to be made between the Auslan and Polish conditions.

The first component (see Table 1) was interpreted as "Teacher Expectations" because many of the items related to expectations that a student would be comparable to his or her peers in relation to abilities, effort and participation in activities. Item 26 loaded negatively, suggesting that teachers interpreted a "simplified curriculum" to mean that a student requires less challenging work than others, which is likely to reflect low expectations of the student.

Item	Auslan	Polish
The student is as likely as their peers to try hard in their schoolwork	**.80**	**.54**
This student is likely to be able to problem-solve as well as their peers	**.73**	**.63**
The student will be able to participate in extracurricular activities	**.70**	**.56**
The student is as likely as their peers to follow the school rules.	**.70**	**.56**
This student will need a simplified curriculum	**-.62**	**-.52**
The other students will benefit from having this student in our class	**.50**	**.64**
It is important for the student to learn about other people who share their language and cultural background	**.48**	**.44**
Cronbach's alpha	**.80**	**.68**

Table 1: Loadings in the two conditions for Factor 1 – Teacher Expectations

The second component was more difficult to interpret, as it appeared to relate to the confidence teachers have in their ability to teach and communicate with the student, as well as the student's ability to participate socially within his or her peer group. This component may be defined as "Teacher Confidence" since the highest loading items relate to the teachers' confidence in their own ability to teach the student (see Table 2). While the other items relate to the student's ability to fit into the class and communicate with their teacher and peers, it is likely that teachers who do not feel confident that they can cater for the student may also be concerned that their classroom is not adequate for the student to learn academically and develop socially. This may also be related to teachers' beliefs about whether the student belongs in a mainstream classroom.

Item	Auslan	Polish
Teaching this student will be difficult	**-.68**	**-.60**
I feel that I have all the skills I need to adequately teach this student	**.64**	**.70**
I feel confident in teaching this student	**.63**	**.60**
The student will be able to fully participate in our class	**.57**	**.65**
The student will be able to understand my instructions	**.57**	**.62**
The student will be able to socialise well with their peers	**.54**	**.58**
The student is likely to have difficulty making friends	**-.50**	**-.52**
Cronbach's alpha	**.76**	**.81**

Table 2: Loadings in the two conditions for Factor 2 – Teacher Confidence

Comparisons of the Auslan and Polish Conditions

The data were examined for features of a normal distribution. Both factors appeared to display significant kurtosis for the Polish condition (.52 for Factor 1 and -.62 for Factor 2), and Factor 1 in the Auslan condition was negatively skewed (-.48). Therefore, nonparametric tests were considered to be the most appropriate analyses for these data.

Wilcoxon's Signed Ranks Tests were used to compare the Auslan and Polish conditions on the two factors. Expectations of the Auslan student were significantly higher than for the Polish student (Auslan $M = 4.13$, $SD = .50$; Polish $M = 3.94$, $SD = .44$; $z = -5.22$, $p < .01$) and teachers were significantly more confident about teaching the Auslan student (Auslan $M = 3.05$, $SD = .56$; Polish $M = 2.86$, $SD = .62$; $z = -3.89$, $p < .01$).

Differences in teacher expectations and confidence were considered according to level of teaching (early years and primary teachers compared with middle years and secondary teachers), gender of teacher, order of questionnaire, previous experience of Auslan or Polish, whether English was the teacher's first language, and the teacher's background in special education. Significant differences were found only for ESL and gender. Teachers who had English as a second language themselves were significantly more confident in teaching the Polish student ($M = 3.36$, $SD = .66$, $N = 10$) than teachers whose first language was English ($M = 2.82$, $SD = .62$, $N = 158$) Mann-Whitney $U = 431.00$, $p = .02$. There was no significant

difference for the Auslan condition. Female teachers had significantly higher expectations of the Auslan student ($M = 4.17$, $SD = .49$, $N = 148$) than did male teachers ($M = 3.93$, SD = .48, $N = 35$), $U = 1661.50$, $p = .01$, a difference that was not evident in the Polish condition.

Teaching Strategies

Participants were asked to list teaching strategies that they would use with deaf or Polish students. Of the 200 participants, 173 completed this question for the Auslan condition and 168 completed the question for the Polish condition. Strategies that at least 10 people suggested in either condition were retained for further analysis. This process yielded 18 strategies, which were further coded in terms of frequency. A subset of 50 randomly selected responses was also coded by another rater who was unfamiliar with the development of the coding system, and Cohen's Kappa suggested high inter-rater reliability (= .91).

Table 3 shows the 18 strategies and the percentages of respondents who suggested each strategy for Auslan and Polish students. Almost half the sample suggested visual aides for both groups. Other common suggestions included writing (39% Auslan, but only 13% Polish), learning the language (22.5% Auslan and 2% Polish) and peer tutoring (13% Auslan, 22% Polish). McNemar's test was used to determine whether the frequencies for each strategy differed significantly between the Auslan and Polish conditions, and these significance values are shown in Table 3.

Strategy	Auslan %	Polish %	*p* value
Visual aides	**49.7**	**45.2**	**.34**
Physical gestures	**12.7**	**12.5**	**1.00**
Writing	**39.3**	**13.1**	**<.01 ****
Learn the language	**22.5**	**1.8**	**<.01 ****
Learn basics/key words of the language	**6.9**	**8.9**	**.82**
Teach the language to the other students	**19.1**	**1.8**	**<.01 ****
Incorporate student's culture into curriculum	**1.2**	**11.9**	**<.01 ****
Peer tutoring/buddy system	**13.3**	**22.3**	**.03 ***
Group/interactive work	**10.4**	**16.1**	**.07**
Speak clearly	**11.6**	**4.8**	**.04 ***
Use simple English	**0.6**	**10.1**	**<.01 ****
Face the student when speaking	**8.7**	**0**	**<.01 ****
Seating position	**8.1**	**1.8**	**.01 ***
Enlist the help of other professionals	**15.6**	**14.9**	**1.00**
Involve the parents	**8.1**	**8.3**	**1.00**
Have some things translated	**0**	**9.5**	**<.01 ****
Individual instruction with teacher	**3.5**	**9.5**	**.05 ***
Interpreter	**4.6**	**5.4**	**1.00**

* p < .05 ** p < .01

Table 3: Percentages of participants who suggested each strategy in the Auslan and Polish conditions with significance levels

Discussion

The results of this study suggest that preservice teachers have higher expectations of deaf students than of ESL students, and that they feel more confident about teaching students who are deaf than those who have English as a second language. These differences are interesting, given that both groups of students use a different language from the teacher and have limited ability to understand English. The groups are not similar in every respect, however. Because deaf students are unable to hear, they are likely to have extra difficulties that ESL students do not face. They may continue to experience significant language barriers, whereas Polish students will probably acquire oral English language skills more quickly. However, Polish students who are newly arrived in Australia could be expected to have specific difficulties related to adjusting and settling into a new country. It seems that preservice teachers feel more confident about dealing with the difficulties experienced by deaf students. On the other hand, they may simply be unaware of the extent of their needs.

It is possible that preservice teachers do not recognise that English is a second language for deaf students who use Auslan. As a result, they may assume that Polish students require greater support. This assumption is demonstrated in a comment provided by one of the participants, who stated that "while both the child who is deaf and the child who speaks Polish both have language barriers, the child who is deaf has the advantage of being able to read and understand English". Preservice teachers, especially those who will be teaching older children at secondary school, may have made the reasonable assumption that the Auslan student would have been in the education system for long enough to have been taught to read and write English. In the Auslan scenario, writing was suggested significantly more frequently by teachers of older students, suggesting that they believe that older deaf students are literate in English. Interestingly however, even teachers of younger students suggested writing as a strategy significantly more frequently for the Auslan student than for the Polish student.

In addition to writing, several other language strategies differed for Auslan and Polish students. While similar numbers of participants reported that they would learn the "basics" or "keywords" in Auslan and Polish, significantly more were prepared to learn Auslan and said that they would even teach it to the other students. The teachers may have believed that Auslan is easier to learn than Polish, since they expected to be able to learn Auslan well enough to teach it, and did not make this assumption as frequently about Polish. By contrast, significantly more teachers suggested that they would have material translated into Polish, while none said that they would try to provide Auslan resources.

These differences may be reflecting underlying assumptions that sign languages are similar to English, rather than being distinct and separate languages like Polish. Alternatively, Australian teachers might have more interest in learning Auslan than Polish because in their professional careers they expect to encounter more deaf students than Polish students, and thus consider time spent learning Auslan to be a more worthwhile investment than the effort of learning a language that might be used with only a single student.

Significantly more participants said that they would incorporate the Polish student's culture into the curriculum. This is not surprising as cultural differences are one of the biggest barriers to school inclusion for many ESL students and the finding that preservice teachers, like experienced teachers (Lee, 2004), recognise the importance of making other students aware of an ESL student's cultural background is a positive one. Nevertheless, it would also be useful if preservice teachers realised that deaf students are often also part of a different cultural group from their hearing peers so that they could also incorporate this culture into their classrooms (Thumann-Prezioso, 2005).

Other differences in suggested teaching strategies for the two groups relate to communication style and access to language. While the use of simple English was suggested more frequently for the Polish student than for the Auslan student, strategies such as speaking

clearly, facing the student, and giving the student an advantageous seating position were suggested more frequently for the Auslan student, probably based on an assumption that deaf students are lipreading. However, having clear vision of the teacher's face, and speaking English more clearly are likely to be helpful strategies for deaf and ESL students alike.

Participants suggested individual instruction and peer tutoring significantly more frequently for the Polish student than for the Auslan student. It is unclear why teachers expected that they would need to devote more individual time and provide more peer assistance to the Polish student than the Auslan student. On one hand, this view is promising, considering that the literature on ESL education identifies peer collaboration and meaningful communication as optimal strategies for learning English (Gersten, 1999; Haneda, 2008; Lee, 2004; Mickan, 2007; Olivo, 2003) and it is encouraging to discover that the preservice teachers in this study independently suggested teaching strategies for ESL students that are considered effective in the literature. Although these strategies are useful for ESL students, it is likely that they would also be beneficial to deaf students who use Auslan. It would be helpful to know whether the different views stem from an assumption that Auslan students are able to read and write well enough to follow what is happening in the classroom, or that they can lipread and thus need less individual help.

Implications for Educators

The findings of this study have implications for teaching both deaf and ESL students. It seems that preservice teachers may not recognise that deaf students, like ESL students, have a unique language and a unique culture. It is important for teachers to know that Auslan is a complete and distinct language that is not only very different to English, but quite different to spoken languages altogether (Napier & Barker, 2004).

If it is the case that differences in responses to the two scenarios were based on presumptions that deaf students have good English literacy, it is important to educate preservice teachers about the wide variety of language skills in deaf students. While it is true that many deaf children learn to read and write well, it is important that teachers realise that lack of access to spoken English makes this task a lot harder than it is for hearing students, and that writing alone is not a sufficient strategy for communicating with a deaf student. Since growing numbers of profoundly deaf students are being placed in mainstream classrooms, and Auslan is now the language of instruction for deaf students in many parts of Australia, the scenario provided in this questionnaire is likely to be relevant to many teachers.

It is reassuring to note that preservice teachers suggested teaching strategies for the ESL student that are considered effective in the literature. This suggests that new teachers with limited experience in ESL education seem prepared to use strategies that will promote students' language development and socialisation. Of concern, however, is the finding that teachers have lower expectations of ESL students than deaf students, and less confidence in teaching ESL students. Research suggests that training can improve teachers' attitudes towards ESL students, which in turn is likely to lead to better student outcomes (Cho & DeCastro-Ambrosetti, 2005). The current study highlights a need to provide further teacher education in this area.

Strengths and Limitations of the Study

The current study has a number of strengths. It appears to be the first comparison of teacher attitudes towards deaf students and ESL students. A set of questions was developed to be applicable with both minority groups. Although only 14 of the original 30 items were retained, the two resulting factors were valuable for the purposes of the research. Further development of the questionnaire may enable more information to be obtained from the original items. A strength of the study is the fact that questionnaire data were supplemented by qualitative responses about strategies that preservice teachers would use with the two groups of students.

There are some limitations to the current study that should be borne in mind when considering the findings. Although care was taken to make the Auslan and Polish conditions as equivalent as possible, it was inevitable that the two groups were not completely comparable. Polish was selected as the optimum language for the ESL scenario for the reasons given earlier. Minimal extra information was provided about the two students so that participants were required to answer based on their own assumptions about the characteristics of deaf or ESL students. These factors are likely to have assisted in making the Auslan and Polish students as comparable as possible.

Another limitation of the study involves the lack of a control condition. The inclusion of a third version of the questionnaire that asked about an English-speaking student newly arrived from another part of Australia would have made it possible to compare teacher attitudes and expectations of deaf students, ESL students, and their hearing, non-ESL peers. However, this extra scenario would have lengthened the questionnaire considerably, thus decreasing the likelihood that participants would complete it and reducing the chances of acquiring a large enough sample to generate meaningful factors in the development of this new questionnaire. Future studies could validate the questionnaire with a hearing control condition and compare teacher expectations and confidence between deaf students and hearing students, as well as between ESL and English-speaking students.

It should be kept in mind that the current study examined preservice teacher attitudes, and these do not necessarily reflect the attitudes of experienced teachers. While the sample of preservice teachers was an appropriate choice for the goal of informing teacher education, it would also be useful to examine the attitudes of experienced teachers in future research. Although the current study gathered data on the extent of preservice teachers' experience with Auslan and Polish, and any specific training they had in areas related to special needs or teaching ESL students, no information was obtained about participants' knowledge of these specific groups. Future work could examine the relationships between attitudes and knowledge, as well as the basis for teacher expectations and confidence in teaching deaf students.

Conclusion

In summary, this study has provided evidence of differences in preservice teacher attitudes towards deaf and ESL students. In order to highlight potential areas for inclusion in teacher education programs, future research should consider exploring the possibility that preservice teachers may assume that deaf students are able to read and write in English, or that they are able to lipread spoken English effectively. This research has suggested also the need for further training in ESL education for preservice teachers, as their lower expectations and confidence may influence outcomes for ESL students. The findings of the current study, in combination with future research, can help inform education programs to enhance teacher

attitudes, expectations, and confidence, thereby improving life opportunities and outcomes for deaf and ESL students.

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