

The Impact of Teacher Training in Special Education on the Attitudes of Australian Preservice General Educators towards People with Disabilities

By Annemaree Carroll, Chris Forlin, & Anne Jobling

Introduction

Despite the continued movement toward inclusive practices in Australia, recent studies overseas have found that many teachers have less than positive attitudes towards students with disabilities and their inclusion in general education classrooms (D'Alonzo, Giordano, & Cross, 1996; Vaughn, Schumm, Jallad, Slusher, & Saumell, 1996). Teachers set the tone of classrooms, and as such, the success of inclusion may well depend upon the prevailing attitudes of teachers as they interact with students with disabilities in their classroom. This has implications for teacher training. Recently, major revisions to teacher education programs have been advocated (Lombard, Miller, & Hazelkorn, 1998; Milton & Rohl, 1999).

The need for improved teacher training arises from the limitations of many current teacher training programs. In many universities, general and special education programs continue to operate under a dual

*Annemaree Carroll and
Anne Jobling are
professors with the
Schonell Special
Education Research
Centre of the University
of Queensland,
Brisbane, Australia, and
Chris Forlin is a
professor with the
School of Education at
Edith Cowan University,
Western Australia.*

The Impact of Teacher Training in Special Education

system. That is, many teacher training programs still use a model that ensures separation between regular and special education teacher trainees (separate training model). Teacher training is thus segregated with each discipline being viewed as different and special (Reed & Monday-Amaya, 1995; Villa Thousand, & Chapple, 1996). With this orientation, there are no opportunities to integrate materials taught or to experience the transdisciplinary nature of education as it is practised in classrooms today. Preservice teachers rarely see or experience the process of collaboration between general and special education modeled for them, nor the integration of the two areas of expertise (Villa et al., 1996).

A further limitation of the separate teacher training model is that university teacher preparation programs over-emphasize knowledge acquisition to the detriment of equipping teachers with practical skills for teaching to a diverse range of students, including those with disabilities (Edelen-Smith, Prater, & Sileo, 1993; Reed & Monda-Amaya, 1995; Reitz & Kerr, 1991). As a result, researchers have identified inadequate or inappropriate field-based experiences and lack of exposure to persons with disabilities in many preservice programs (Buck, Morsink, Griffin, Hines, & Lenk, 1992; D'Alonzo, et al., 1996; Edelen-Smith et al., 1993). In a position paper, the National Joint Committee on Learning Disabilities (NJCLD, 1998) suggested that core competencies were required for all educators and that comprehensive transdisciplinary preparation programs were needed to most effectively meet the needs of students with and without disabilities.

In a survey of 48 American public and private institutions of higher education, teacher educators were asked to determine the extent to which preservice general education teachers received instruction relevant to inclusion of students with disabilities. It was shown that many of these institutions had failed in their attempts to prepare regular educators for the challenges of inclusion and collaborative teaching environments (Trump & Hange, 1996). Similarly, in a study of teachers in rural British Columbia, it was established that both their inservice and preservice education had inadequately prepared them for the realities of inclusion (Bandy & Boyer, 1994). Teachers reported a high percentage of children with special needs in their classrooms who had a wide range of disabilities. They revealed a grave concern pertaining to the lack of support services available to the students and themselves, and disclosed a perceived inability to provide optimal educational programs to children with special needs because of inadequate teacher preparation and lack of adequate resources.

Of 231 teacher trainees in Northern Ireland and Scotland, 96 percent indicated that they did not believe their professional training had prepared them to meet the challenge of inclusive education (Wishart & Manning, 1996). Another study conducted in 45 states in the U.S.A. concerning inclusion reported that respondents did not feel prepared to meet the needs of their students with disabilities (Lombard et al., 1998). These results have been supported by an increasing body of literature that advocates for improved and revised teacher education programs to address the

growing movement of inclusive education (Edelen-Smith et al., 1993; Everington, Hamill, & Lubic, 1996; Smith & Hilton, 1997; Villa et al., 1996).

Much of the literature on preservice teacher training has been descriptive in nature and few studies have reported empirical data on the impact of preservice training programs on teacher attitudes. Trent, Pernell, Mungai, and Chimedza (1998), however, used pre- and post-concept maps (i.e., visual display of student ideas and concepts and the interrelationships between them) to measure the change in 30 students enrolled in a course in multicultural and special education. The course components emphasized transdisciplinary approaches, practical skills for teaching to a diverse range of students, adequate and appropriate field-based experiences, and interactions with people with disabilities. The results showed that the training had an impact on both the number of concepts understood and the depth of that understanding. The students were better able to integrate theory and practice and demonstrated a shift from general understanding of teaching to specific strategies and techniques. Similar findings were reported for teaching students in Australia (Hickson, 1995). A positive attitude change towards people with disabilities was noted on completion of a mandatory disability course component. In addition, attitude formation and change were also linked to contact with people with disabilities.

In an Australian study, Forlin, Jobling, and Carroll (2001) identified several factors that were related to interactions with people with disabilities for a group of preservice teachers. It was found that preservice teachers had a high level of sympathy toward people with disabilities, were fearful of being disabled, and felt vulnerable in interactions with people with disabilities. Although they appeared to cope with these interactions, they were moderately uncertain about how to react to people with disabilities but did not feel particularly uncomfortable during such interactions. A recent survey of teachers undertaken by the Queensland Government (Disability Services Queensland, 1999) further reported that 86 percent of the respondents considered that others would not feel relaxed and comfortable when interacting with people with a disability.

In summary, although it is recognized that teachers play a pivot role in shaping the overall attitudes towards students with disabilities in classrooms, little research has focused on redesigning preservice teacher training programs to facilitate more positive feelings in the interactions between teachers and students with disabilities. Specific factors have been shown to influence how teachers interact with students with disabilities. By addressing these factors in preservice teacher training, it is suggested that the classroom practices of future teachers would ultimately be modified.

Preservice Teacher Training in Australia

Preservice teacher education in Australia is the responsibility of individual universities in all states and territories. While some jurisdictions have teacher

The Impact of Teacher Training in Special Education

registration boards that oversee the development of appropriate programs, these are not established in all systems. Where a registration board does exist, teacher education programs (including the coursework and training experiences) need to be accredited for teachers to gain employment. Similar to most models of training employed in some universities in the U.S.A. and the U.K., a dual mode of training exists in Australia whereby teacher preparation is either for general or special education.

In recent years there has been considerable debate on the need to provide preservice training for general educators that encompasses compulsory units of work on teaching students with special needs. Some states such as New South Wales have already endorsed the need for their teacher training curriculum to include at least one compulsory unit of work on special education. Others are currently debating similar structures (Forlin & Forlin, 2000). A number of reports and research publications in Australia have continuously claimed that new teachers are not effectively trained to teach students with special needs in regular classes (Milton & Rohl, 1999; Ministerial Advisory Council on the Quality of Teaching, 1997; Recommendations: National Inquiry into Rural and Remote Education, 2000).

National standards and guidelines for initial teacher education in Australia have recently been developed (Adey, 1998). These guidelines state that “graduates should regard all students as capable of learning and be committed to treating all students equitably” (p. 10). The guidelines also state that graduates should have “an understanding of the general nature of diversity and the conceptual and ethical issues involved” (p. 11). A number of principles for implementation were proposed including the caveat that “any procedure must promote and support quality, diversity, innovation, and the networking of best practice in initial teacher education” (p. 47).

Recently, two Australian universities (The University of Queensland and the University of Southern Queensland) reconfigured their preservice special education courses to address concerns that existing preservice programs are not adequately preparing teachers for inclusive education and the newly developed national standards and guidelines for initial teacher education in Australia. The redesigned courses incorporated a number of innovative practices to help improve students’ attitudes toward people with disabilities. The present study investigated the effect of participating in the 10-week special needs course on preservice teachers’ attitudes towards people with disabilities. Of particular interest, were any changes concerning preservice teachers’ feelings of discomfort during interactions with individuals with disabilities. At The University of Queensland, teacher trainee students elected to take the 10-week course in special education while at the University of Southern Queensland, the 10-week special education course was compulsory for all teacher trainee students in the final (fourth) year of their degree.

Method

Participants

The sample consisted of 220 preservice teachers who completed a special education course focusing on children with special needs during one semester at either The University of Queensland (UQ) or the University of Southern Queensland (USQ). Participants in the course were informed that they were free to refrain from completing the questionnaires if they wished. The sample was taken from seven different cohorts who completed the one semester program during a three-year period (1998-2000). A one-way Analysis of Variance was employed to identify any significant differences between the seven sets of data at both the pre- ($F(1, 6) = 1.14, p = .34$) and post- ($F(1, 6) = .62, p = .71$) collections. As no significant differences were found within either the seven pre- or post- sets, the data were combined for all analyses.

Settings

The sessions of the 10-week course were held in the Education lecture theatres at the two universities. Data were collected during the first (pre) and last (post) sessions of the 10-week course, with time allocated during these sessions to complete the questionnaire. The tables and chairs of the lecture theatres were arranged in rows for the administration of the questionnaires.

Instrument

Preservice teachers at both universities were asked to complete a modified version of the *Interactions with Disabled Persons Scale* (IDP) (Gething, 1994) and 12 demographic items pertaining to personal details (e.g., age, gender, level of education attained, contact with persons with disabilities, program focus). The modified version, *Interactions with People with Disabilities Scale* (IPD) (Forlin, Jobling, & Carroll, 2001) was employed as it was designed to measure emotions underlying possible negative attitudes associated with discomfort that some people experience when interacting with a person with a disability. The IPD scale consists of 20 items requiring respondents to rank their level of discomfort when interacting with a person with a disability using a 5-point scale. Since using the scale previously (Forlin et al., 2001) the order of the response points on the Likert scale were reversed to make a higher score on an item indicate less agreement with the item. Responses, therefore, ranged from 1 (strongly agree), 2 (agree), 3 (neutral), 4 (disagree) to 5 (strongly disagree).

Previous structural equation modeling on the IPD employed by Forlin, Fogarty, and Carroll (1999) identified six factors. These were defined as: *discomfort* (feelings of discomfort experienced during direct contact, including duration of contact, staring and eye contact, 4 items); *sympathy* (not being hurt when they cannot do something, and feeling unable to help, 4 items); *uncertainty* (feeling

The Impact of Teacher Training in Special Education

ignorant and frustrated by not knowing how to help, 3 items); *fear* (being grateful that one is not disabled and fearful of becoming so, 2 items); *coping* (not pitying them and noticing the person rather than the disability, 2 items); and *vulnerability* (concerned about ones own vulnerability to becoming disabled, 2 items). The internal consistency coefficients for the six factors were reported previously as being mostly in the moderate to low range (alpha range .55 to .91). In particular, the *coping* factor had a low reliability of .39 (Forlin et al., 1999).

Procedures

The 10-week course involved a one-hour lecture and a two-hour tutorial per week. The lecture content of the 10-week course was divided into four modules: the contextual framework of special education; individuals first; inclusion as an educational practice; and, classroom practice for students with special needs. In the first module, the major themes covered were the ideological basis and policy of current special educational provision, the changing relationship between regular and special education, major contemporary trends and issues in the education of students with special needs, and models of special educational provision.

In Module Two, topics of lectures focused on the importance of terminology as an indicator of intentions, attitudes and clarity of understanding, issues of labeling, stigmatization, and categorization, social justice and equity issues, and an introduction to the learning and behavioral characteristics of students with different types of special needs.

In the third module, issues related to inclusive practice were explored. The major themes included: ascertainment procedures of students with special needs; Individualized Education Plans; curriculum adaptations and modifications; issues of alternative assessment; observation and interview procedures; collaborative teamwork models; the changing role of parents; teachers as role models; and, teachers' attitudes to inclusion.

In Module Four, a broad overview of classroom management techniques were provided. Examples of the techniques reviewed are peer tutoring, cooperative learning, and group work. It was emphasized to the teacher trainees that these approaches are useful for all students in regular classrooms.

Small group tutorials were used to explore the themes of the lectures in greater depth and to relate the lecture content to the participants' own teaching. Ways in which the content could be modified for children with disabilities in inclusive classrooms were highlighted in tutorials. Students were given a number of different opportunities to interact and work with people with disabilities through specific activities that focused on personal and environmental factors that the literature suggests may be related to feelings of discomfort experienced during interactions with people with disabilities (Forlin, Tait, Carroll, & Jobling, 1999). These personal and environmental factors include: personal feelings of discomfort and fear; feelings of sympathy of not being better able to help people with disabilities;

feelings of ignorance in not knowing how to help people with disabilities; being fearful and vulnerable of developing a disability; and pitying people with disabilities (Gething, 1994).

The key strategies used to overcome personal feelings of discomfort, fear and sympathy focused on optimal opportunities for interaction between the students and people with disabilities. Young adults and adults with disabilities were invited as guest lecturers and were regularly involved in tutorial groups. Opportunities were provided for teacher trainees to view a selection of videos on people with different disabilities in inclusive settings (schools, communities, homes). A buddy system at local schools was arranged where each teacher trainee was linked to a student with a disability. All of these strategies increased the exposure of the teacher trainees to the different types of disabilities experienced by people in their local community. In addition, teacher trainees were given the opportunity to undertake an extended three-week practicum in a regular school where inclusion of students with special needs was best practice. A video was also developed that presented three stories of local people with disabilities and allowed opportunities for reflection and discussion on the key issues raised by each person (Forlin, 1999). To support the video a booklet was subsequently developed (Forlin, 2000).

Potential environmental issues associated with uncertainty about disability, how to react and cope when interacting with people with disabilities, and concern about one's own vulnerability to becoming disabled were also addressed in tutorial activities. Visits to local Disability Awareness Centres were arranged where students participated in a range of simulation experiences associated with being disabled. Local government education personnel involved with supporting students with disabilities in regular schools participated as guest lecturers and tutors. Exposure to state disability awareness programs via videos and internet sites and advertising brochures was provided. Definitions, characteristics and educational needs of people with a range of disabilities were discussed. Curriculum and instructional design and modification to enable students with disabilities to be fully included in regular classes were reviewed.

Results

The results are reported in two parts. Firstly, the effect of nine demographic characteristics of the sample on levels of discomfort are explored, namely, age (*age*), gender (*gender*), frequency of face-to-face contact (*freq*), type of contact (*type*), role during contact (*role*), program of study (*program*), program focus (*focus*), previous education (*edu*), previous study by taking compulsory units in special education (*comp*) and previous study by taking elective units in special education (*elec*).

Secondly, in order to determine the effect on preservice teachers' levels of discomfort as a result of participating in the redesigned special education course,

The Impact of Teacher Training in Special Education

relationships are subsequently explored between pre- and post-data collections using both the Total Scale Score (TSS) and the six factor scores (*Discomfort*, *Sympathy*, *Uncertainty*, *Fear*, *Coping*, and *Vulnerability*) of the IPD. The internal consistency reliabilities for each of the six factors at both the pre- and post-administrations were greater than .54 with the exception of *coping* that had a reliability of .43 (pre) and .46 (post), (range .43 to .75). This supported earlier findings of Gething (1994) and Forlin et al. (1999) which similarly reported particularly weak reliabilities for the coping factor.

A total scale score (TSS) was calculated by summing the 20 items of the IPD and determining the mean score for each individual at both the pre- and post-administrations (Range 1 to 5). For the TSS this meant that a higher mean response indicated less discomfort felt by the preservice teachers when interacting with a person with a disability. Factor scores were also determined in the same manner for each of the six factors.

Demographic Characteristics of the Participants and Effect on Levels of Discomfort

Preservice teachers were asked to respond to additional items related to demographic information. One-way Analysis of Variance was employed to identify any effect for age, gender, contact, course of study, and previous education on levels of discomfort as determined by the TSS. In addition, Multivariate Analysis of Variance (MANOVA) using Wilks Lambda (L) was employed to determine any effects for these variables on the six factors of the scale. When the MANOVA produced significant results, consideration was given to the univariate analyses to investigate the significance levels for each of the six factors.

Age. The responses were grouped according to less than or greater than 30 years of age. Eighty-eight percent of preservice teachers were younger than 30 years. No significant differences were found between those less than or those older than 30 years in their levels of discomfort.

Gender. Of the 209 participants who responded to this question, 78 percent were female. No significant differences were found for gender for levels of discomfort.

Contact with Persons with Disabilities. Preservice teachers were asked to indicate the frequency and type of face-to-face contact they had with people with disabilities and their role during this contact. For approximately one-third of participants, contact with people with disabilities was very limited, being less than once every three months. Approximately one-fifth had monthly contact and a further one-third had weekly contact. Only 12 percent had daily contact with people with disabilities. It was difficult to determine the exact type of contact. While 4 percent reported that the contact was with a sibling, 21 percent said that it was with a child and 15 percent with an adult. The vast majority of 59 percent, though, indicated the 'other' category. Similar problems were found in identifying their role during this contact. Although 13 percent indicated it was in a professional capacity

and 14 percent linked it to family or relation, a further 68 percent indicated the 'other' category.

Significant differences were found for frequency of contact at both the pre- ($F(1, 3)=9.67, p=.000$) and post- ($F(1, 3)=3.99, p=.008$) data collections for the TSS. In both instances the mean response increased with a similar increase in amount of contact. For the TSS this indicated that greater contact with people with disabilities led to significantly lower levels of discomfort. A significant MANOVA was also obtained for contact with the six factors at both the pre- ($L=.71, F(18, 588)=4.19, p=.000$) and post- ($L=.81, F(18, 586)=2.44, p=.001$) administrations. Further consideration of the univariate analysis determined significant differences for three factors at the pre-administration, *discomfort* ($p=.000$), *coping* ($p=.000$), and *uncertainty* ($p=.000$) with *fear* approaching significance ($p=.067$). For the post-administration while *discomfort* ($p=.007$), *coping* ($p=.001$) and *uncertainty* ($p=.001$) were still significant, *fear* ($p=.465$) was not and in addition *vulnerability* was approaching significance ($p=.066$). Increased contact with people with disabilities while leading to improved levels of comfort, greater certainty and better coping did not alter sympathy levels and only marginally effected fear of being disabled and perceptions of vulnerability. Of interesting note is that vulnerability showed a reverse trend with greater contact indicating feelings of greater vulnerability.

Program and Focus of Study. The majority of preservice teachers (69 percent) were enrolled in a straight Bachelor of Education (BEd) degree but an additional 15 percent were doing a parallel degree (BEd/BA). Of those 179 preservice teachers enrolled in the BEd, 79 percent were taking a primary focus and 21 percent a secondary focus. The remaining 37 participants were undertaking an allied program for professionals working in schools.

No significant differences were found between the preservice teachers enrolled in different programs at either the pre- or post-administrations for the TSS. A significant MANOVA was obtained, however, for the six factors at the pre-training ($L=.89, F(12, 414)=1.97, p=.025$) and the post-training was closely approaching significance ($L=.90, F(12, 414)=1.73, p=.057$). At the pre-training level univariate analysis indicated three factors were significant, namely, *discomfort* ($p=.016$), *fear* ($p=.006$) and *uncertainty* ($p=.048$). At the post-training level *fear* ($p=.016$) was the only significant factor. Prior to training preservice teachers enrolled in the BEd experienced greater discomfort, more uncertainty and fear than did those undertaking the parallel degree or the allied professionals. Following training though there was not such a marked difference, with only levels of fear remaining significantly higher for the preservice teachers in the BEd degree.

Of the total 220 preservice teachers, 142 were focusing on primary teaching, 37 on secondary teaching and 37 on 'other' areas. Significant differences in levels of discomfort were found for the TSS at both the pre- ($F(1, 2)=5.04, p=.007$) and post- ($F(1, 2)=3.14, p=.045$) administrations. In both instances those who were taking a primary focus expressed higher levels of discomfort than did the secondary

The Impact of Teacher Training in Special Education

or other preservice teachers. Similarly, a significant MANOVA was obtained at the pre-training level ($L=.89$, $F(12, 416)=1.97$, $p=.025$), although this was only approaching significance at the post-training level ($L=.90$, $F(12, 414)=1.68$, $p=.068$). Prior to training, univariate analysis indicated significant differences for *discomfort* ($p=.002$), *fear* ($p=.003$) and *uncertainty* ($p=.008$), although such differences were not found following training. Preservice teachers undertaking a primary focus program expressed higher levels of discomfort, were more fearful of becoming disabled themselves, and were more uncertain about how to react during interactions with people with disabilities. There is inevitably some overlap between both the program enrolled in and the focus of the program. There is a tendency for those enrolled in the BEd to be focusing on primary education while those enrolled in the parallel degree usually focus on secondary education. It is also expected that those completing the allied professional degree would have indicated 'other' as the focus of their program. This would explain the similarity in findings for both program of study and focus of the program.

Education—Highest Qualification. The highest level of qualification held by three quarters of the preservice teachers was a Year 12 Overall Position score, with 19 percent holding a post-graduate degree and a further 6 percent having a diploma. No significant differences were found in levels of discomfort depending upon the previous level of education obtained prior to commencing their current course of study.

Previous Elective Study in Special Education. Participants were asked to indicate the number of compulsory and elective special education courses that they had previously completed as part of their degree. Prior to commencing the redesigned courses used in this research, only 9 percent of preservice teachers indicated that they had undertaken a compulsory course in special education and only 8 percent had undertaken an elective course. Of the 220 preservice teachers doing the training course at either of the universities, 63 percent were taking it as a compulsory course as part of their BEd degree, whereas the remainder had selected it as an optional course of study. No significant differences for level of discomfort were found regarding prior study in special education. This is not surprising considering the very small number of preservice teachers who had completed any such training before commencing this 10-week course of work.

Pre- and Post-Training Effects of Participation in 10-Week Course

Descriptive statistics for the TSS and six factors at both the pre- and post-data collections are included in Table 1.

In order to investigate any effect on levels of discomfort following involvement in the redesigned unit a within-subjects design was employed. As this study utilised a pre-test/post-test design the data were analysed using repeated measures t-tests (Table 2).

Table 1
Descriptive Statistics for the TSS and Six Factors

Variable	Pre-Training		Range	Post-Training		Range
	Mean	SD		Mean	SD	
TSS	2.94	0.42	1.85-4.40	3.12	0.41	2.05-4.45
Discomfort	3.91	0.65	2.00-4.00	4.06	0.58	2.25-5.00
Sympathy	1.91	0.56	1.00-4.25	2.07	0.53	1.00-3.25
Uncertainty	3.31	0.83	1.00-5.00	3.68	0.72	1.33-5.00
Fear	2.58	0.88	1.00-5.00	2.73	0.93	1.00-5.00
Coping	3.56	0.74	1.50-5.00	3.80	0.73	1.50-5.00
Vulnerability	2.50	0.81	1.00-5.00	2.53	0.86	1.00-5.00

Note: Range = 1 (*strongly agree*), 2 (*agree*), 3 (*neutral*), 4 (*disagree*), to 5 (*strongly disagree*).

Initially, preservice teachers indicated a high level of sympathy towards people with a disability (*sympathy*), were concerned about their own vulnerability (*vulnerability*) and were fearful of becoming disabled themselves (*fear*). They were less concerned about feeling ignorant or being uncertain how to help (*uncertainty*), did not overly pity a person with a disability (*coping*), and were not overwhelmed with discomfort during interactions (*discomfort*). Overall, their level of discomfort when meeting a person with a disability, as measured by the TSS, indicated a neutral response, neither agreeing nor disagreeing with the statements.

Table 2
Repeated Measures t-tests for Levels of Discomfort
Pre- and Post-Training for the TSS and Six Factors

Variable	Paired Differences			95% Confidence		Interval of the Difference		
	Mean	SD	SE	Upper	Lower	t	df	Sig (2-tailed)
Pre/Post								
TSS	-.18	.34	.02	-.23	-.14	-7.93	219	.000*
Discom-	-.14	.60	.04	-.22	-.06	-3.48	219	.001*
fort	-.16	.49	.03	-.22	-.09	-4.72	219	.000*
Sympathy	-.36	.76	.05	-.46	-.26	-7.12	219	.000*
Uncer-	-.15	.77	.05	-.25	-.05	-2.89	219	.004*
tainty	-.23	.78	.05	-.33	-.13	-4.38	218	.000*
Fear	-.03	.80	.05	-.13	.08	-0.50	219	.616
Coping								
Vulner-								
ability								

Note: * = Significant at .05 level

The Impact of Teacher Training in Special Education

With the exception of vulnerability, significant differences in mean responses were recorded following participating in the 10-week course, although it should be noted that actual mean differences as low as .14 were significant at the .05 level (see Table 2). Following completion of the course, preservice teachers indicated less frustration due to not knowing how to help (*sympathy*), were less concerned that they may become disabled themselves (*fear*), and were more confident about how to help (*uncertainty*). They were less likely to pity people with a disability and more likely to notice the person rather than their disability (*coping*). They were also less concerned during direct contact with people with a disability (*discomfort*). Not surprisingly, their level of vulnerability remained similar following training, as this related to how they would feel if they had a disability and how contact with a person with a disability reminds them of their own vulnerability. Overall, their level of discomfort as determined by the TSS decreased significantly following training, although was still within the neutral range.

Discussion

With the current nature of teacher preparation programs and their reported limitations in equipping teachers for inclusion, it may be that factors associated with teachers' attitudes such as those identified in the present research (i.e., discomfort, fear, uncertainty, sympathy, vulnerability and coping) may be important considerations in programs. Participation in the redesigned 10-week course had the greatest impact in two areas, namely, *uncertainty* and *coping*. The most noticeable improvement regarding interactions with a person with a disability was that preservice teachers felt less ignorant, more able to act normally and surer of how to behave, once they had completed the course. They also demonstrated less pity and a greater focus on the person rather than the disability. Given the youthfulness and limited experience of the preservice teachers in the present research, it would seem that participation in courses (which include some elements considered essential for development of a supportive school environment) can contribute to the personal growth of teachers as well as their knowledge of individuals with disabilities. This personal growth provides a sense of maturity and confidence that they are able to use in their teaching of all students and particularly those with special needs.

The 10-week course outlined in this paper has addressed some of the essential elements identified by researchers as important when designing courses to support children with disabilities in inclusive settings. These elements include: a need to share common coursework and practical experiences in preservice training (Reed & Monda-Amaya, 1995; Vaughn et al., 1996; Villa et al., 1996); opportunities for collaboration, consultation and problem solving across educational environments (Edelen-Smith et al., 1993; Vaughn et al., 1996; Villa et al., 1996); development of skills in behaviour management (Reitz & Kerr, 1991); the construction of effective learning experiences and the management of inclusive curriculum for all students

(Smith & Hilton, 1997); and an understanding of teaching theories, disability characteristics, attitudes towards disability and the legal and ethical issues involved in inclusive education (D'Alonzo et al., 1996; Smith & Hilton, 1997).

Teaching practice activities that include opportunities for collaboration, consultation, and problem solving across common educational environments (Edelen-Smith et al., 1993) are considered other essential elements for effective training of preservice teachers. However, these elements were not featured in the redesigned course of the present research. This was due to the content-based nature of practical placements at these universities. It was anticipated that rather than placing students in a contrived teaching situation (such as a one day practical placement in a special school environment) they would be able to apply the knowledge and skills they had gained from the course in their authentic practical teaching experience across a range of classes and disciplines.

There is no doubt that with the philosophical orientation of today's educational system, that every classroom will include a student with diverse needs and every teacher will be required to meet the needs of these students. This will necessitate that teachers have confidence in their ability and the knowledge and skills in inclusive education to meet the individual challenges that they will encounter in the present school climate. Preservice teacher education has a responsibility to both the teachers and their students to ensure that teachers are adequately prepared for the task of educating all students within the regular education classroom. Moreover, continuing professional development is essential to the maintenance of the quality of education for all in our Australian schools.

References

- Adey, K. L. (1998). *Preparing a profession: Report of the National Standards and Guidelines for Initial Teacher Education Project*. Canberra: Australian Council of Deans of Education.
- Bandy, H. E. & Boyer, W. A. R. (1994). The impact of special needs students on teachers in the rural areas of British Columbia. In D. McSwan & M. McShane (Eds.), *An international conference on issues affecting rural communities: Proceedings of the conference held by the Rural Education Research and Development Centre at Sheraton Breakwater Casino-Hotel, Townsville Queensland Australia*, 10-15 July 1994 (pp. 232-241). Townsville: James Cook University of North Queensland, Rural Education Research and Development Centre.
- Buck, G., Morsink, C., Griffin, C., Hines, T., & Lenk, L. (1992). Preservice training: The role of field-based experiences in the preparation of effective special educators. *Teacher Education and Special Education*, 15(2), 108-123.
- D'Alonzo, B., Giordano, G., & Cross, T. (1996). Improving teachers' attitudes through teacher education toward the inclusion of students with disabilities into their classrooms. *Teacher Educator*, 31(4), 304-312.
- Disability Services Queensland (1999). *Community attitudes study: Community awareness campaign testing*. Brisbane: Queensland Government.

The Impact of Teacher Training in Special Education

- Edelen-Smith, P., Prater, M., & Sileo, T. (1993). The impact of current issues in teacher education on the preparation of special educators. *Issues in Special Education & Rehabilitation*, 8(1), 7-15.
- Everington, C., Hamill, L., & Lubic, B. (1996). Restructuring teacher preparation programs for inclusion: The change process in one university. *Contemporary Education*, 68(1), 52-56.
- Forlin, C. (Producer). (1999). *From the inside looking out* [video recording]. Bendigo, Australia: Training Health & Educational Media.
- Forlin, C. (2000). *From the inside looking out* [support booklet]. (Available from University of Southern Queensland, Toowoomba, Qld. 4350, Australia)
- Forlin, C., Fogarty, G., & Carroll, A. (1999). Validation of the factor structure of the Interactions with Disabled Person's Scale. *Australian Journal of Psychology*, 51, 50-55.
- Forlin, C., & Forlin, P. (2000). Special Education Research in Australia. *Exceptionality*, 8, 247-259.
- Forlin, C. Jobling, A., & Carroll, A. (2001). Preservice teachers' discomfort levels toward people with disabilities. *The Journal of International Special Needs Education*, 4, 32-38.
- Forlin, C., Tait, K., Carroll, A., & Jobling, A. (1999). Teacher Education for Diversity. *Queensland Journal of Educational Research*, 15, (2), 207-226.
- Gething, L. (1994) The interaction with Disabled Persons Scale. *Journal of Social Behaviour and Personality*, 9 (5), 23-42.
- Hickson, F. E. (1995). *Attitude formation and change toward people with disabilities*. Unpublished Doctoral thesis. Sydney, NSW: University of Sydney.
- Lombard, R. C., Miller, R. J., & Hazelkorn, M. N. (1998). School-to-work and technical preparation: Teacher attitudes and practices regarding the inclusion of students with disabilities. *Career Development for Exceptional Individuals*, 21, 161-172.
- Milton, M., & Rohl, M. (1999). Children K-2 who are of concern to their teachers: Identification, programs and the professional needs of teachers. *Australian Journal of Learning Disabilities*, 3(1), 9-16.
- Ministerial Advisory Council on the Quality of Teaching (1997). *Raising the standards of teachers and teaching*. Sydney, NSW: School Education Policy Directorate, Department of Education and Training.
- National Joint Committee on Learning Disabilities (NJCLD). (1998). Learning disabilities: Preservice preparation of general and special education teachers. *Learning Disability Quarterly*, 21, 1998.
- Recommendations: National inquiry into rural and remote education (2000, May). Commonwealth of Australia: Human Rights and Equal Opportunity Commission.
- Reed, F., & Monda-Amaya, L. (1995). Preparing preservice general educators for inclusion: A survey of teacher preparation programs in Illinois. *Teacher Education and Special Education*, 18(4), 262-274.
- Reitz, A., & Kerr, M. (1991). Training effective teachers for tomorrow's students: Issues and recommendations. *Education and Treatment of Children*, 14(4), 361-370.
- Smith, J., & Hilton, A. (1997). The preparation and training of the educational community for the inclusion of students with developmental disabilities: The MRDD position. *Education and Training in Mental Retardation and Developmental Disabilities*, 32(1), 3-10.
- Trent, S., Pernell, E., Mungai, A., & Chimedza, R. (1998). Using concept maps to measure conceptual change in preservice teachers enrolled in a multicultural education/special

- education course. *Remedial and Special Education*, 19(1), 16-31.
- Trump, G. C., & Hange, J. E. (1996). *Concerns about and Effective Strategies for Inclusion: Focus Group Interview Findings from West Virginia Teachers*. Charleston, West Virginia: Appalachia Educational Laboratory. (ERIC Document Reproduction Service No. ED 397578).
- Vaughn, S., Schumm, J., Jallad, B., Slusher, S., & Saumell, L. (1996). Teachers' views of inclusion. *Learning Disabilities Research and Practice*, 11(2), 96-106.
- Villa, R., Thousand, J., & Chapple, J. (1996). Preparing teachers to support inclusion: Preservice and inservice programs. *Theory into Practice*, 35(1), 42-50.
- Wishart, J. G., & Manning, G. (1996). Trainee teachers' attitudes to inclusive education for children with Down's Syndrome. *Journal of Intellectual Disability Research*, 40, 56-65.