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Abstract

This article reports on a survey of 37 educators regarding future directions in the education of students with disabilities. The survey used the Delphi technique. For the decade of the 1990s and after the year 2000, respondents' predictions included the following: The movement toward increasing inclusion will occur; the belief will prevail that people with disabilities have a right to participate in inclusive environments; students with mild disabilities will be educated in general classrooms; teachers will increase their use of instructional approaches such as cooperative learning and instructional technology; and researchers will focus on matching instructional needs with learner characteristics.

Keeping pace with the rapid evolution of educational practices and services for students with disabilities is a challenge for educators, families, and service providers. A great deal has been accomplished in the past 20 years, particularly with respect to providing a free, appropriate education to many children with disabilities who were previously denied access to an education (Heward & Orlansky, 1992). The proportion of students served in residential facilities and separate schools has declined dramatically, and the placement of

students in general education classes in public schools is increasing. At least 68.6% of students requiring special education services are served in general education classrooms for part (40% or more) or all of the school day (U.S. Department of Education, 1991). A growing number of schools and entire districts educate nearly all students in general classrooms, rather than in pull-out classrooms. In these districts, the only exceptions are students for whom the least restrictive environment is not the general classroom, due to a need for intensive medical or therapeutic intervention (Putnam, 1993). Though some experts advocate for a fully inclusive, unified education system for all students, including those with disabilities (Lipsky & Gartner, 1992), others argue for preserving a dual system of special and general education to provide special services "for those who need it" (Lieberman, 1992).

The demographics of our schools and the causes of disability are shifting at a rapid pace. American schools are characterized by tremendous ethnic and cultural diversity, with minority populations growing rapidly. In many large cities, the "minorities" are becoming the majority (Hodgkinson, 1993). It is estimated that there are 322,000 children of school age that are homeless. In the last decade, significant increases have occurred in the numbers of babies prenatally exposed to drugs and alcohol, HIV-infected babies, and low-birth-weight babies. "In major urban areas, it is estimated that 1 child in 15 has some congenital problem that can impair his or her behavior and learning" (Crosby, 1993). Fetal alcohol syndrome is now recognized as the leading known cause of mental retardation in the United States, surpassing Down syndrome and spina bifida (Streissguth et al., 1991), and HIV is now the leading infectious cause of pediatric mental retardation. According to Hodgkinson (1993), estimates indicate that fully 23% of America's children are living below the poverty line and are at risk for school failure. It seems clear that fundamental changes will have to take place in our schools to address the needs of a diverse population of students.

Instruction, assessment, behavior management, and curricular models are also changing, although less rapidly than many educators would prefer, given the changing demographics and public criticisms of U.S. education (Glasser, 1986; Goodlad, 1983; National Commission on Excellence in Education, 1983). Currently debated is the extent to which "reductionistic" approaches to instruction, such as direct instruction and diagnostic/prescriptive teaching models, should be used with students with disabilities. More "holistic/constructivist" models are now proposed, such as whole language and outcomes-based assessment, in which learning is defined as the construction of meaning by the learner in the context of her or his current knowledge (Poplin & Stone, 1992; Tarver, 1992). Cooperative learning and cooperative/democratic disciplinary approaches exist as alternatives or supplements to individualistic instruction and applied behavior management. Facilitated communication has been reported to result in dramatic breakthroughs for some people with autism (Biklen & Schube1i, 1991; Putnam, 1994), although the efficacy of this approach is hotly debated by professionals in the field.

In responding to the spate of criticism against public schools, Robson (personal communication, 1992) stated:

> We haven't gotten worse—we simply haven't been able to keep up with the changes that have come about in the population of clients with whom we deal. Clearly, our education system is on the front line in attempting to deal with the crisis in society.

Many controversial issues exist in the field of special education. By identifying and addressing these issues constructively, we can identify and plan for the most important trends that will affect us in the future. Although we cannot predict a fixed, immutable future, we can be thoughtful about what might lie ahead, and ready ourselves for these possibilities. The transformation and improvement of schools for our increasingly diverse students require the appropriate anticipation of the needs of students, family members, and educators—and effective plans to address them. A useful process for forecasting future trends is the Delphi Technique, developed by a Rand Corporation mathematician, Olaf Helmer (1966).

The Delphi Technique

The Delphi technique, one of several forecasting procedures that has come into use over the last few decades, was originally used to forecast developments in technology for defense purposes (Linstone & Turoff, 1975). In recent years, researchers have used this research method, with some modifications, to address issues in education, including residential services for people with developmental disabilities (Shaddock, Hattie, Edwards, Bramston, & Brummell, 1986), collaborative consultation between special and general educators (West & Cannon, 1988), education of gifted children (Cramer, 1991), vocational education programs for students with mild retardation (Plue, 1985), and recreation and leisure for people with disabilities (Hunt & Brooks, 1982). Other researchers have also used Delphi to conduct more general studies on future trends in special education, deinstitutionalization, and effective public education for all students (O'Shea & Gajar, 1983; Putnam & Bruininks, 1986; Reynolds, 1973; Roos, 1978; Safer, Burnette, & Hobbs, 1979).

By facilitating the involvement of professionals from different disciplines, the Delphi method enables joint problem-solving and decision-making activities to occur (Linstone & Turoff, 1975; Putnam & Bruininks, 1986; Reynolds, 1994). The opinions or judgments of a group of people, often leaders and experts in a given field, are solicited and processed through several rounds of structured mail surveys. The responses are then compiled and evaluated with the aim of promoting a consensus among respondents.

The lack of face-to-face encounters encourages the contribution of diverse opinions, eliminates the possibility that some people will dominate discussions and decisions, and provides for a one-person-one-vote equality and anonymity. Other advantages of this method are that participants need not be in close proximity, and the results may be statistically manipulated. The Delphi method has been found to be a useful tool for raising and examining major issues, seeking group consensus in solving problems, and forecasting future events (Delbecq, Van de Ven, & Gustafson, 1986; Reynolds, 1994).

1980s Delphi Study on Deinstitutionalization and Education

About a decade ago, Putnam and Bruininks (1986) conducted a Delphi study on future directions in deinstitutionalization and education of people with disabilities. Thirty-three panelists in leadership positions in special education and developmental disabilities were asked to assess the desirability of certain outcomes and to predict their probability of occurrence in two Delphi survey rounds.

Overall, panelists predicted that the deinstitutionalization movement would continue and that community-based residential services would increasingly become available to all people with disabilities. They also anticipated that children and youth with disabilities would be educated in more natural environments and situations. However, panelists did not foresee a wholesale movement of students with mild disabilities or special education teachers into the general classroom until the year 2000. Increasingly positive changes in the attitudes of children and adults without disabilities toward people with disabilities were predicted to occur early in the 1990s.

Panelists were more pessimistic regarding future events related to personnel preparation. For example, panelists felt that education and human service professions would continue to attract less able college entrants due to poor working conditions, salaries, and benefits, relative to the private sector. Using paraprofessionals to deliver services in programs for people with disabilities was viewed as a controversial issue.

Since the publication of our previous Delphi investigation, important legislative and policy changes have occurred in the education of people with disabilities. These call for greater inclusion of people with disabilities in general education classes, coupled with a restructuring of general education classes to meet the unique needs of all students. For example, Madeleine Will (1986), Secretary for the Office of Special Education and Rehabilitative Services, set forth the policy on the Regular Education Initiative recommending a new type of relationship between general and special educators to promote work in partnership to meet the needs of all students, particularly those who have learning problems. The Americans with Disabilities Act (Public Law 101-336) was signed into law in 1990, extending civil rights protection to people with disabilities in private sector employment as well as public services, public accommodation, transportation, and telecommunications. That same year, P.L. 101-476, the Individuals with Disabilities Education Act *(Federal Register*, 1992, Sec. 3000.5) was passed, resulting in changes in eligibility criteria for persons with disabilities and changes in the terminology for people with disabilities. This new legislation also addressed the importance of assistive technology and devices. These dramatic changes in the direction of public policy have focused attention on the rights, needs, and potential of people with disabilities.

The movement toward expanding opportunity has been paralleled by public concern over the costs and outcomes of education. Such concerns have been magnified during the past 10 years by the prevalent national mood of increased pessimism regarding the potential of the United States to compete in global markets, growing anxiety regarding the perception of decreased public safety in schools and neighborhoods, and alarm about the worsening social and economic condition of children and families (Bruininks, Frenzel, & Kelly, 1993). Thus, the movement toward greater rights and opportunities for students

with disabilities increasingly is considered within the context of concern over the costs and outcomes of our schools and the performance of special education and related community services (Lewis & Bruininks, 1993).

Expanding the ideals of inclusion and opportunity, within the context of perceived countervailing forces, will require both accuracy in the assessment of critical trends and the formulation of effective policies and practices. In light of more recent legislation, shifts in policies, demographic changes, and changes in U.S. education, such as the school restructuring movement, this study reports results from a Delphi investigation that was undertaken to gauge the opinions of leaders and experts concerning future trends and issues related to the education of students with disabilities.

Procedures

The Delphi technique of forecasting future trends consists of a series of steps. In addition to the nomination and selection of panelists, the researchers must complete an iterative process of questionnaire development, data collection through survey mailings, and data analysis. First, using an initial set of predictive statements developed by the authors and based, in part, on previous Delphi studies (Putnam & Bruininks, 1986; Reynolds, 1973), we conducted a pilot study of 16 people involved with issues of integration with children and youth with disabilities. These pilot study panelists were local special education teachers, university faculty, parents of children with disabilities, members of advocacy groups, and people employed at a university-affiliated program. We asked the panelists not only to complete the questionnaire but also to make any comments and changes and to add any statements they thought should be included. Nine of the 16 panelists returned the questionnaires.

Round I
Using the comments and information from the pilot study responses, we devised the Round I questionnaire. Within the general topic area of "integration of children and youth with disabilities," the 63 predictive statements were organized into the following six categories:

1. Social, philosophical, and legal issues
2. Educational service delivery trends
3. Attitudes
4. Educational interventions
5. Personnel preparation
6. Research

Panelists were selected through nomination by state directors of special education, university faculty members, editors of journals in the fields of special education and disabilities, and leaders of national organizations concerned with people with disabilities. We asked these leaders to nominate three people with expertise related to education and services for students with disabilities. We then chose panelists randomly from a stratified list

of nominees. The panelists are grouped by the following categories: university faculty, local special education directors and staff, state directors of special education, parents, national associations on disabilities, state associations on disabilities, national associations/societies, private programs, education consultants, and university-affiliated programs.

Copies of the Round I questionnaire were mailed to 58 nominees, who were asked to review the statements and rate them in terms of their likelihood of occurrence and their desirability. Included in the request for participation was an illustrated example of how to properly rate the statements. We asked panelists to indicate the probability of occurrence for each predictive statement during three specified time intervals and then to indicate the desirability of the trend. Desirability was indicated on a 5-point Likert scale from "extremely undesirable" (1) to "extremely desirable" (5) (see fig. 1). Space was provided for written comments and for adding new predictive statements.

Figure 1. Probability and Desirability Categories		
Probability of Occurrence Time Intervals		
Before 1996	1996–2000	After 2000
Desirability Categories		
1 = Extremely undesirable		
2 = Undesirable		
3 = Neutral		
4 = Desirable		
5 = Extremely desirable		

Forty panelists participated in the first round, and 37 panelists participated in both rounds. After the surveys were received, the results were compiled and analyzed. For analysis, the five categories on the desirability scale were collapsed into three categories: undesirable, neutral, and desirable. Eighty-percent agreement on this collapsed scale was considered to indicate consensus on desirability. A mean probability rating of 60% or more was considered to be likely to occur for the purpose of discussion.

Round II

We developed the Round II survey based on the Round I survey and responses. This follow-up survey included the statements from Round I for which consensus on desirability had not been reached, revised and clarified items from Round I, and additional statements suggested by the panelists. A total of 57 statements were included in the second and final round of the survey. In addition to the statements, panelists were given feedback on the Round I responses. Comments from panelists were also included. The two rounds of the questionnaire were completed by December 1991, and analysis took place during 1992.

Results

Thirty-seven people participated in both rounds of the Delphi survey. Responses to items that were omitted or completed incorrectly were not incorporated in the final analysis.

Consensus on Desirability and Probability of Occurrence
On the first round of the survey, consensus on desirability of items was reached for 27 of the 63 items (42.9%). Included in the second round were items for which consensus was not obtained on the first round and new items contributed by panelists. In addition, some of the original statements were revised for clarity, based on panelist recommendations.

The total number of items in the Round II survey was 57. This included 33 items from Round I for which consensus was not reached, 8 items derived from modifying and splitting Round I items to clarify them, and 16 new items contributed by panelists.

For the second round, panelists were also given the summary of written comments contributed by panelists in the first round. Consensus on desirability was reached on 21 of the 57 items (36.8%) in Round II. Combining the two rounds, a total of 83 distinct items were used. Panelists reached consensus on 47 of these, yielding an overall consensus rate of 56.6%. (Note: One consensus item from the first round was only slightly revised in the second round, for purposes of comparison with new items; consensus was again reached, making a total of 47 consensus items instead of 48.)

Over the two rounds, panelists' ratings also converged on probability of occurrence of the predictions. Standard deviations for probability estimates were notably smaller in the second round. In Round I, they ranged from 16.7 to 35.5; in Round II the range was 10.3 to 30.0.

Of the 47 items for which consensus was attained, 39 were rated as desirable; 8 were undesirable. All items rated as desirable had increasing mean probability ratings across the three time periods. In other words, the panelists projected that the occurrence of these desirable events would become more likely in the future. However, some were seen as more likely to occur than others. Table 1 lists all Round I and Round II statements with the percentages of panelists indicating each desirability rating and the mean probability of occurrence ratings for the three time periods.

Table 1. All Round I and Round II Predictions, Characterized by Desirability and Probability of Occurrences

Categories and Statements	Percent of Panelists			Mean Probability of Occurrence Ratings for These Time Intervals		
	Unde-sirable	Neu-tral	Desir-able	Before 1996	1996–2000	After 2000
A. Social, Philosophical, and Legal Trends						
The belief will predominate that people with disabilities have a right to full participation in integrated educational and community settings and activities.	5	2	93*	53.5	68.0*	84.1*

There will be consensus that the goal of full integration of people who are "learning disabled" into general classes is appropriate.	12	5	82*	51.4	66.4*	81.4*
General educators will agree that education generally should be modified, expanded, or adjusted to meet the needs of all students.	0	5	95*	42.2	60.8*	76.3*
The opportunity for a child with a disability to attend a local public school (one that the child would have attended if s/he were not disabled) will be seen as a fundamental right, no matter how severe the child's disability.	0	18	82*	39.7	62.0*	76.8*
Social integration will be consistently included as an important component of Individualized Education Programs (IEPs) for children and youth with disabilities.	0	2	98*	53.9	71.3*	85.9*
There will be consensus that the goal of academic integration of people who are deaf is appropriate.	8	10	80*	26.9	40.4	58.4
Categorical labels (e.g., learning disabled, mentally retarded) used to classify people with mild disabilities in special education will be considered of little instructional value and unjustifiable in school settings.	8	3	89*	40.0	57.1	68.4*
Integration of students will be based upon individual needs on an individual basis.	0	6	94*	46.7	57.0	67.7*
Increasing competition in schools will result in the devaluation of students with disabilities.	93*	0	7	32.4	28.1	24.9
Some students with severe and profound disabilities will be considered "ineducable" and unsuitable for participation in (integrated) public school settings.	87*	11	3	40.7	33.8	30.2
Societal values will influence decisions concerning social integration of people with disabilities more than empirical research findings.	35	22	43	67.6*	68.2*	72.2*
General educators will agree that students with moderate and severe disabilities can be placed in general classes on a full-time basis.	22	17	61	16.9	27.4	38.6
The impact of federal monitoring and legal agents in shaping the nature of integration will decrease.	46	16	38	26.7	35.6	44.2
The general classroom will be viewed as the Least Restrictive Environment for all students, regardless of disability.	31	3	67	28.9	39.6	50.9

The rights of children without disabilities in the classroom will impact state and federal regulations.	15	29	57	24.9	38.0	47.7
The belief that student and parental choice for program options is the ultimate human right will increase.	17	26	57	33.2	42.3	49.3
B. Educational Service Delivery Trends						
Efforts to develop comprehensive educational services in rural areas will be made with a commitment to keeping students in their own community whenever possible, even when taking services to students is more expensive than taking children to services.	5	5	90*	33.2	48.6	61.1*
Elementary school students with mild disabilities will be placed in general class settings for 100% of the school day.	15	0	95*	47.2	64.8*	77.8*
Secondary school students with mild disabilities will be placed in general class settings for 100% of the school day.	10	3	87*	36.6	48.3	62.5*
Elementary school students with moderate disabilities will be placed in general class settings for at least 75% of the school day.	5	5	89*	32.9	45.4	58.5
Secondary school students with moderate disabilities will be placed in general class settings for at least 75% of the school day.	8	5	86*	30.4	41.0	52.6
Secondary school students with moderate to severe disabilities will attend vocational training or community-based instruction as a regular part of their school day.	2	2	96*	52.0	68.5*	83.5*
The trend toward increasing integration of students with disabilities will be observed quite uniformly throughout the Western World.	2	10	87*	45.6	55.0	64.1*
Mainstreamed early childhood programs will become commonplace and early childhood special education (self-contained) programs will cease to exist.	14	3	84*	31.6	46.3	59.4
Funding formulas must support integration and nonlabeling or they cannot occur.	0	9	91*	29.0	41.0	54.0
Academic excellence reforms in general education will make community-based and functional curricula increasingly more difficult to deliver.	83*	6	12	32.2	34.2	34.1
There will be societal changes resulting in less "mainstreaming" for students with disabilities.	81*	6	14	22.3	26.0	24.6

Educational programs for people with disabilities will be substantially deregulated.	39	19	42	22.3	34.6	46.5
"Pull-out" programs (as opposed to in-class programs) will continue to exist for all levels of students with disabilities.	35	16	48	71.9*	64.0*	56.3
Funding for special education services according to categories of exceptionality will be maintained.	61	28	11	76.4*	65.9*	55.0
Great variability among the states in service delivery arrangements (from classroom integration to specialized schools) will continue to exist.	63	30	8	81.5*	75.4*	68.7*
Special (segregated) schools will continue to exist for students with visual impairments.	68	14	19	77.5*	65.3*	52.1
Special (segregated) schools will continue to exist for students with hearing impairments.	46	24	30	80.2*	72.9*	61.5*
The number of special education teachers whose main function is consulting will increase by 50%.	11	11	78	38.8	51.6	63.7*
The per capita cost of educating students with disabilities will increase at a faster rate than the cost of educating students without disabilities.	67	19	14	55.9	58.6	61.6*
There will be a complete merger of the special education and general education systems in public schools.	19	5	76	13.4	24.4	41.2
Homogenous groups by ability levels will continue in public schools.	65	22	14	63.9*	60.4*	54.3
C. Attitudes						
Enduring relationships between people with and without disabilities will become commonplace.	0	5	95*	27.6	42.2	56.6
Parents of students without disabilities will support mainstreaming for students with mild disabilities.	3	3	94*	34.7	46.0	57.7
Organized groups of people with disabilities will insist on mainstreaming in the schools and community.	8	5	87*	43.0	56.0	66.4*
The benefits of integrated education to society as a whole will be recognized.	3	5	93*	34.1	47.9	61.0*
Major opposition to increased "mainstreaming" of pupils will be seen from special education teachers and administrators.	80*	9	11	47.6	40.1	34.6

Major opposition to increased "main-streaming" of pupils will be seen from parents of children without disabilities.	83*	6	11	49.3	45.0	37.8
Major opposition to increased "main-streaming" of pupils will be seen from general education teachers.	82*	9	9	60.4*	51.6	46.3
People with disabilities will be valued more according to their economic productivity as opposed to noneconomic contributions (e.g., companionship).	62	19	19	43.5	47.9	52.4
Greater social willingness to support habilitative programs for people with disabilities will come from educating the public on human rights rather than educating them on the nature and needs of people with different disabilities.	11	26	63	30.7	38.5	46.3
Parents of children without disabilities will agree that students with moderate and severe disabilities can be placed in general classes on a full-time basis.	8	14	78	22.4	35.0	46.2
Major opposition to increased "main-streaming" of pupils with disabilities will be seen from parents of children with disabilities.	74	11	14	37.6	30.1	25.5
Appropriateness of placement in general classes at the secondary level will be reconsidered for many students with mild disabilities in light of outcome studies.	23	20	56	37.7	43.6	47.5
D. Educational Interventions						
Instruction to enhance social skills development will take place *within* integrated environments (as opposed to remedial instruction in special settings to prepare students for integrated settings).	2	8	90*	37.6	55.0	69.6*
Cooperative group learning strategies with heterogeneous groups of students with and without disabilities will be applied in 75% of public school classrooms.	5	10	85*	29.9	45.6	61.0*
General education curriculum will be developed for use with more heterogeneous groups of students (e.g., Slavin's *Team Assisted Individualization* math curriculum for K–8).	5	5	90*	33.9	50.2	65.0*
Technological advances (e.g., communication devices, computer technology, telecommunications) will be applied specifically to all people with disabilities in school settings.	3	3	94*	33.4	52.6	72.0*

Educators will increase their repertoires of instruction methods to accommodate greater diversity of students' rates and styles of learning.	0	0	100*	38.2	55.0	70.5*
Aversive behavior management techniques will continue to be used in classrooms of children with mild disabilities.	81*	6	14	40.0	33.8	28.6
Community-based instruction for students with severe disabilities will reduce opportunities for "normalized" social interactions in school environments.	60	27	13	33.4	33.3	33.0
Increased academic performance expectations for students without disabilities will result in a decrease in peer-tutoring activities for students with and without disabilities.	72	19	8	29.6	28.7	27.1
Functional curricula will be recognized as more valuable for selected secondary students with mild disabilities as a result of outcome studies.	14	11	75	40.2	49.4	57.3
E. Personnel Preparation						
Courses on teaching exceptional students will be required for education majors in all teacher preparation programs.	0	0	100*	56.5	70.6*	87.6*
As the need for teamwork among specialized (IEP) team members grows, teacher preparation programs will include instruction and practicum on communication skills and teamwork.	2	0	98*	42.5	61.6*	77.8*
School administrators will receive specific training to prepare for mainstreaming.	0	5	95*	32.1	47.6	61.6*
Special educators will be trained and assigned more according to instructional categories (e.g., reading, alternative communication systems) than student categories (mildly or severely disabled).	6	11	84*	31.7	45.8	58.2
Special education teacher training programs will undergo significant change.	3	17	81*	34.7	47.6	60.7*
There will be higher education requirements expanding educators repertoire of instructional methods to accommodate a greater diversity of students' rates and styles of learning.	0	6	94*	30.2	45.0	61.3*
The number of categorical personnel preparation programs will diminish to 10% (now about 50%).	29	9	63	32.4	40.4	47.2
Advocacy groups and organizations will oppose noncategorical personnel preparation programs.	36	49	16	40.3	40.1	40.1

Entry-level certification in special education will require a master's degree or 5-year program in most states.	19	32	49	25.6	36.7	47.6
The number of special education teacher preparation programs that are organized as separate from general education teacher preparation programs will be reduced by 50%.	8	17	75	23.0	34.1	47.4
Manpower shortages of the nation will continue to grow and special education certification requirements will be relaxed.	69	18	12	30.5	34.2	36.2
The greatest barrier to improvement overall will be school administrators.	66	25	9	40.2	36.5	34.0
F. Research						
Importance will be placed on research on matching instructional interventions with specific learner characteristics.	2	15	83*	40.3	55.6	68.3*
Communicating research findings to the general public, business, and school personnel will assume increasing importance and will be supported by the federal government.	0	5	94*	30.5	44.4	56.2
Research will increase on the use and applications of technology in educational programs.	0	0	100*	48.6	65.7*	79.3*
Federal support for special education research will increase substantially.	2	8	90*	23.6	29.6	35.6
Importance will be placed on research on funding reorganization in delivery of service to people with disabilities.	8	5	86*	34.1	48.1	58.9
Research on cultural bias in assessment will continue.	0	19	81*	41.2	48.0	51.0
Research will focus more on functional adult adjustment outcomes of education service delivery models than academic outcomes.	6	14	80*	32.5	43.1	54.2
Limited empirical support for self-contained special programs will contribute to their demise.	18	18	64	33.2	41.4	49.1
Research efforts will focus more on academic outcomes associated with mainstreaming versus social/psychological outcomes.	45	32	22	45.9	50.6	53.8
Importance will be placed on research comparing the relative effects of categorical and noncategorical teacher preparation programs on student outcomes.	19	22	59	27.1	35.2	38.7

Single-subject research designs rather than group designs will dominate the field of special education.	38	56	5	25.0	26.4	26.4
Meta-analysis will become the primary basis for communicating research findings in special education for policymakers.	6	70	24	33.2	38.3	46.5
Special institutes or centers for evaluating research in low-prevalence areas will be created by the federal government.	11	34	55	18.6	28.2	37.3

* in "undesirable" or "desirable" column indicates that consensus (80% agreement) was reached.

* in mean probability ratings column indicates that mean probability ratings of 60% or more were considered likely to occur.

None of the 39 statements rated as desirable were predicted to occur before 1996, 10 were predicted to occur during the 1996–2000 time period, and 16 were predicted to occur after 2000. Thirteen of the desirable predictions were not expected to occur during any of the time intervals. Many of the statements perceived to be desirable and predicted to occur during the 1996–2000 time period fell in the area of social, philosophical, and legal trends, addressing issues about full inclusion for students with mild disabilities and the right of students to participate in integrated activities. The desirable statements predicted to occur after 2000 spanned all topic areas.

In the area of educational intervention, for example, panelists agreed that a variety of instructional methods, such as cooperative group learning, heterogeneous grouping, and technological advances, would be implemented in classrooms to accommodate greater diversity among students. In addition, panelists predicted that teachers would expand their repertoires of instructional methods and that greater emphasis would be placed on research focused on matching instructional needs with learner characteristics.

The remaining 13 statements rated as desirable by a consensus of the panelists were not predicted to occur for any time period. In this set of statements were predictions that the federal government would support increasing communication of research findings to the public and school personnel and that students with moderate disabilities would be placed in general classes for 75% of the school day.

Of the eight statements rated as undesirable by the panelists, only the following was expected to occur:

> Major opposition to increased "mainstreaming" of pupils will be seen from general education teachers.

This statement was predicted to take place during the current time period (before 1996). Panelists expected opposition to mainstreaming, now referred to as inclusion, to decrease over time. Five additional undesirable statements showed decreasing probabilities over time, indicating the expectation by panelists that they were less likely to occur in the future. All statements for which consensus on undesirability was attained are shown in table l (indicated by an asterisk in the column labeled "Undesirable"), along with their mean probability ratings for each time period. The remaining two undesirable statements

showed stable mean probability, and panelists did not expect them to occur. These statements were:

There will be societal changes resulting in less "mainstreaming" for students with disabilities.

Academic excellence reforms in general education will make community-based and functional curricula increasingly more difficult to deliver.

Some items were more controversial than others, as indicated by panelists' written comments and the wide variability in ratings on desirability and probability. The following discussion of the Delphi results is organized according to the six general statement categories. The Round I and Round II results are combined to provide an overall picture of trends in the responses. Responses are presented for items upon which consensus was obtained in Round I; otherwise, all responses are taken from Round II of the survey.

Social, Philosophical, and Legal Trends
The items in this section relate to the larger societal forces and events that influence the fields of education and special education, particularly in domains such as belief systems and legal and legislative realms. A majority of the items in this section dealt with the inclusion of students with disabilities into general classes and community settings. Consensus on desirability/undesirability was obtained for 10 of the 16 statements in this section.

Desirable Trends
Overall, panelists concurred that inclusion was desirable and likely to occur. Examples of items for which consensus was reached on desirability and likelihood of occurrence by 2000 were:

The belief will predominate that people with disabilities have a right to full participation in integrated educational and community settings and activities.

There will be consensus that the goal of full integration of people who are "learning disabled" into general classes is appropriate.

General educators will agree that education generally should be modified, expanded, or adjusted to meet the needs of all students.

The opportunity for a child with a disability to attend a local public school (one that the child would have attended if s/he were not disabled) will be seen as a fundamental right, no matter how severe the child's disability.

Social integration will be consistently included as an important component of Individualized Education Programs (IEPs) for children and youth with disabilities.

Panelists agreed that moving away from categorical labeling, and toward inclusion based on individual needs were desirable trends, both of which were predicted to occur after 2000.

> Categorical labels (e.g., learning disabled, mentally retarded) used to classify people with mild disabilities in special education will be considered of little instructional value and unjustifiable in school settings.

> Integration of students will be based upon individual needs on an individual basis.

Though panelists agreed that students who are deaf should be academically integrated, they were not confident that this would take place during any of the time intervals. One panelist noted, "There will always be those who believe in the value of a deaf community in the school setting."

Undesirable Trends

The following statements received undesirable ratings from panelists and were not expected to occur during any of the time intervals:

> Increasing competition in schools will result in the devaluation of student with disabilities.

> Some students with severe and profound disabilities will be considered "ineducable" and unsuitable for participation in (integrated) public school settings.

Lack of Consensus on Desirability

There was no consensus on desirability of occurrence for the following statement:

> General educators will agree that students with moderate and severe disabilities can be. placed in general classes on a full-time basis.

Although panelists indicated an increasing probability of its occurrence across time periods, the probability rating did not exceed 50%.

The statement that societal values rather than empirical research findings will influence decisions regarding social integration of people with disabilities was rated as probable across all time periods. However, there was no consensus as to whether or not this was a desirable or undesirable trend. Nor was consensus reached concerning the statement about decreasing federal monitoring and legal interventions with regard to inclusion of students with disabilities. One panelist commented, "The 'rights' regulation will stay, while the 'how' regulation will decrease." Consensus was not achieved on the desirability of deregulation, and panelists did not predict its occurrence.

Several new statements were cont1ibuted by panelists for the second round of the survey. None of these trends was expected to occur during the specified time intervals, and consensus on desirability, undesirability, or neutral desirability was not achieved.

Included were the following:

> The general classroom will be viewed as the Least Restrictive Environment for all students, regardless of disability.

> The rights of children without disabilities in the classroom will impact state and federal regulations.

> The belief that student and parental choice for program options is the ultimate human right will increase.

Educational Service Delivery Trends

A high proportion of the items in this section dealt with the location of educational services and the degree to which students will be educated with nondisabled peers. Statements also addressed school reform and societal changes as they relate to service options for students. Consensus on desirability/undesirability was obtained for 11 of the 21 items.

Desirable Trends

The movement toward education in general classrooms was considered to be desirable for both elementary and secondary students with mild and moderate disabilities. Panelists predicted that students with mild disabilities were more likely to be integrated than those with moderate disabilities, and that elementary students were more likely to be integrated than secondary students. One panelist commented that general class inclusion in a secondary school was desirable, "if 'placed' means with meaningful and appropriate support, collaboration, and consultation." Panelists agreed that it is beneficial for secondary school students with moderate and severe disabilities to attend vocational training or community-based instruction for at least part of their school day and were confident that the probability of this trend would increase in the future.

Only two of the desirable educational service delivery trends were predicted to occur before 2000:

> Elementary school students with mild disabilities will be placed in general class settings for 100% of the school day.

> Secondary school students with moderate to severe disabilities will attend vocational training or community-based instruction as a regular part of their school day.

With respect to global trends, panelists predicted that the movement toward educational integration would not take hold throughout the world until after 2000, but they concurred that this would be a desirable outcome. Delivering comprehensive education services to students in their rural communities and placing secondary school students with mild disabilities in general classes were viewed as a positive trends, becoming more likely after 2000.

A set of predictions that related to the inclusion of students with moderate disabilities in general class settings, a cessation of self-contained early childhood education programs, and changes in funding formulas were perceived as desirable but not predicted to occur with over 60% probability during the foreseeable future.

Undesirable Trends

Two items in this section of the survey were rated as undesirable by panelists, neither of which was predicted to occur before or after 2000:

> Academic excellence reforms in general education will make community-based and functional curricula increasingly more difficult to deliver.

> There will be societal changes resulting in less "mainstreaming" for students with disabilities.

Lack of Consensus on Desirability

A statement concerning the continued existence of separate schools for students with sensory impairments did not achieve consensus on the first round of the survey. For the second-round questionnaire, this prediction was turned into two statements, one focusing on visual impairments and another one on hearing impairments. Though consensus on desirability was not reached for either statement, panelists predicted the continuance of segregated schools would become less likely over time.

Ratings on statements addressing funding of services indicated a divergence of opinions. No consensus on desirability was reached for any of the statements addressing funding issues. "Pullout" programs for students and funding for services according to of exceptionality were expected to continue to exist until 2000. Great variability among categories service delivery arrangements was predicted to continue beyond the year 2000. With regard to the costs of education, one panelist commented, "Costs will increase while the dual system is maintained."

Although not reaching the consensus criterion, 78% of the panelists rated the following as desirable:

> The number of special education teachers whose main function is consulting will increase by 50%.

Panelists predicted this increase in the consulting function of teachers to occur after 2000. Additional statements for which consensus was not reached appear in table 1.

Attitudes

As dispositions toward a group change, so do predispositions to behave either positively or negatively toward that population. The 12 statements in this section of the survey focus on changes in such dispositions about students with disabilities. Consensus on desirability/undesirability was obtained for 7 of the statements. Panelists were not optimistic about the likelihood of any of the predictions in this section. In fact, none of the items attaining consensus on desirability were awarded a 60% or greater probability projection for the

decade of the '90s, and only two of the predictions received ratings higher than 60% for the after-2000 time period.

Desirable Trends

The four statements that panelists believed to be desirable were:

Enduring relationships between people with and without disabilities will become commonplace.

Parents of students without disabilities will support mainstreaming for students with mild disabilities.

Organized groups of people with disabilities will insist on mainstreaming in the school and community.

The benefits of integrated education to society as a whole will be recognized.

Of these four predictions, panelists anticipated the latter two would occur in the future (after 2000). Though the panelists rated the probability of occurrence of the first two of these predictions to increase over time, they were not expected to take place in the foreseeable future.

Undesirable Trends

One set of statements dealt with the sources of opposition to mainstreaming. Panelists mostly agreed that major opposition from any source was undesirable, and also predicted that such opposition would wane in the future. For the time period before 1996, however, panelists predicted that general educators would show the most opposition (mean probability rating > 60%), compared with parents of children without disabilities, special education teachers and administrators, and parents of children with disabilities. Panelists indicated that parents of children with disabilities would be the group showing the least opposition.

Lack of Consensus on Desirability

Statements not achieving the 80% criterion for consensus on desirability (see table 1) related to the reasons for valuing people with disabilities, the willingness of society to support habilitative programs, the placement of children with moderate disabilities in general classes, opposition to mainstreaming by parents, and a reconsideration of the placement of secondary-level students in general classes.

Educational Interventions

The section on educational interventions contained 9 statements, and consensus on desirability/undesirability was obtained for 6 of these.

Desirable Trends

Essential to the success of educating a diversity of students in inclusive classrooms is the use of a variety of instructional approaches to meet individual needs and learning styles (Goodlad, 1983). Panelists agreed that it was highly desirable for educators to increase their repertoires of instructional methods to accommodate greater diversity of students' rates and styles of learning. They predicted that educators would expand their use of methods after the year 2000.

Three items in this section probed opinions concerning the use of cooperative learning groups, heterogeneous grouping, and peer-tutoring activities for students with disabilities and their peers without disabilities. Panelists agreed that the use of cooperative and heterogeneous group-learning activities was desirable and should be integrated into the general education curriculum, but widespread usage was not anticipated until after 2000.

Additional items rated as desirable in this section of the survey and predicted to take place after 2000 were:

> Technological advances (e.g., communication devices, computer technology, telecommunications) will be applied specifically to all people with disabilities in school settings.

> Instruction to enhance social skills development will take place *within* integrated environments (as opposed to remedial instruction in special settings to prepare students for integrated settings).

Undesirable Trends

The only prediction that was perceived to be undesirable by panelists concerned the use of aversive behavior management procedures with students with mild disabilities. Panelists did not anticipate the occurrence of such approaches before or after 2000.

> Aversive behavior management techniques will continue to be used in classrooms of children with mild disabilities.

Lack of Consensus on Desirability

Consensus on desirability was not achieved for three statements, as shown in table 1. These statements focused on reduced opportunities for normalized social interactions and peer tutoring, and the use of functional curricula for students with mild disabilities.

Personnel Preparation

This section raised issues related to the longstanding argument of undergraduate versus graduate levels of training for special education teachers, categorical versus noncategorical

training, and other possible changes in teacher training programs. Consensus on desirability was obtained for 6 of the 12 statements, with no consensus on undesirability for any of the statements.

Desirable Trends

Panelists agreed that teacher preparation programs should include instruction and practicum on communication skills and teamwork because of the growing need for collaboration among IEP team members. They also thought that courses on teaching exceptional students should be required for education majors in all teacher preparation programs. Both statements were predicted to occur during the 1996–2000 time period.

Interestingly, the simple statement "special education teacher training programs will undergo significant change" received a highly desirable consensus rating, implying that current programs are not meeting the expectations of these leaders and experts in the field. They also thought this significant change was likely to occur after 2000. Panelists agreed on the desirability of the following statements, but did not expect them to occur until after 2000:

> School administrators will receive specific training to prepare for mainstreaming.

> There will be higher education requirements expanding educators' repertoire of instructional methods to accommodate a greater diversity of students' rates and styles of learning.

Panelists also concurred that special educators should be trained and assigned more according to instructional categories (e.g., reading, mathematics, alternative communication systems) than student categories (mild or severe disabilities), but were not optimistic that such changes would take place before or after 2000.

Lack of Consensus

Panelists failed to reach consensus on several statements. In response to the following prediction, one panelist commented, "The 'or' is especially desirable."

> Entry level certification in special education will require a master's degree or a 5-year program in most states.

There was no agreement concerning the desirability of the prediction that advocacy groups and organizations would oppose noncategorical personnel preparation programs. A few comments were offered: "Some yes, some no" and "Opposition is healthy, that is what is desirable."

There has been a call for the merger, or unification, of special education and general education teacher preparation programs in higher education (Lilly, 1989; Reynolds, Wang, & Walberg, 1987). This issue was probed on the Delphi survey with the following projection:

> The number of special education teacher preparation programs that are organized as separate from general education teacher preparation programs will be reduced by 50%.

Panelists were doubtful about the likelihood of such a merger, and they did not reach consensus on desirability. Other items for which consensus was not reached are listed in table 1.

Research

The last category of the Delphi survey queried panelists about the focus of future research endeavors and the predominant methodologies to be used in the future. Thirteen items were posed in this section, and consensus on desirability was obtained for seven of them. Consensus on undesirability was not obtained for any of the items in this section.

Desirable Trends

One area of research that panelists believed should take on greater importance is the use and application of technology in education programs. And they were optimistic that such research would take place before 2000. Another area of research deemed desirable by panelists is the matching of instructional interventions with specific learner characteristics (projected to occur after 2000).

Research focusing on the reorganization of funding in the delivery of services to people with disabilities was judged as desirable by panelists but not projected to occur in the foreseeable future. Similarly, panelists agreed that increased federal support for special education research was desirable but did not predict its occurrence.

The following items, which were contributed by panelists and added to the second-round statements, were rated as desirable but unlikely to occur in the time periods delineated:

> Communicating research findings to the general public, business, and school personnel will assume increasing importance and will be supported by the federal government.

> Research on cultural bias in assessment will continue.

> Research will focus more on functional adult adjustment outcomes of education service delivery models than academic outcomes.

Lack of Consensus

Another prediction suggested that research findings would contribute to the abandonment of self-contained special education programs. Perhaps panelists found it difficult to agree with the cause-and-effect reasoning implied in the statement.

> Limited empirical support for self-contained special programs will contribute to their demise.

One panelist commented, "Demise will not be due to research, but will occur."

Panelists did not concur on the desirability of the preferential use of single-subject over group designs and the use of meta-analytical research methodologies to communicate research findings. A comment by one panelist perhaps reflects the group's perception: "No one methodology should dominate; multiple methods should flourish." Table 1 lists additional statements for which consensus was not obtained.

Summary and Discussion

This Delphi survey was undertaken to stimulate thinking and communication about future trends in the education of students with disabilities. Many issues were raised; and panelists did concur on several trends, not only about what they thought *might* occur but also what they thought *should* occur.

Inclusion and Integration
Because the inclusion of students with disabilities is a key issue in special education, it was emphasized in this investigation. Major trends predicted in the Delphi survey were that the movement toward inclusion will continue, and the belief will predominate that people with disabilities have the right to full participation in integrated settings and activities. Indeed, panelists agreed with the prediction that society as a whole will recognize the benefits of integrated education. Inclusion of students with mild disabilities into general classes is expected to occur by the year 2000. Panelists were somewhat more confident about inclusion in elementary schools than in secondary schools. It is noteworthy that a lack of consensus exists concerning the desirability of full inclusion of students with moderate and severe disabilities in general classrooms. The notion that some students are "ineducable" and unsuitable for participation in public school settings was opposed by panelists, and they concurred that general educators should and would agree (by 1996–2000) that education should be modified to meet the needs of all students.

Panelists were not willing to concede that the general classroom should be viewed as the least restrictive environment for all students, regardless of disability. The following statement perhaps sums up panelists' views about pullout programs, separate schools, and social integration: "Integration of students will be based upon individual needs on an individual basis"—a statement that panelists strongly supported and expected to occur after 2000.

Labeling and Classification
Labeling and categorizing people with disabilities has long been a source of contention among educators. In this Delphi survey, panelists predicted that after the year 2000, categorical labels used to classify people with mild disabilities would be considered to be of little value and unjustifiable in school settings. The 1980s Delphi survey we conducted on deinstitutionalization and education reflected panelists' concern over the language for referring to different levels and types of disabilities, but the contention was over general labeling (mild disabilities, moderate disability) versus specific labeling (autism, Down syndrome, orthopedic disabilities). Now, the debate seems to be over using language that

focuses on educationally relevant variables (e.g., reading disability, written or oral expression problems) versus general or specific disability categories (e.g., mild disabilities, learning disabilities).

Will categorical federal funding formulas drive the classification and labeling of students with disabilities? Panelists predicted that categorical funding for special education services would diminish after the year 2000. It appears that the field is unlikely to fully reject current labeling and classification practices, especially when tied to funding and personnel training strategies. As one panelist commented, "[Categorical funding will be maintained] unless a better practical alternative is devised." This comment suggests a need to examine and experiment with alternatives.

Personnel Preparation

Panelists believed strongly that special education teacher training programs should undergo significant change. Areas of change on which they concurred were in instruction and practicum on teamwork (for more effective IEP teams), requirements for expanding educators' repertoires of instructional methods to accommodate greater student diversity, and a movement toward instructional categories (e.g., reading, written communication) rather than student categories (e.g., severe disabilities) in training. Yet panelists did not reach consensus about the desirability of fewer categorical personnel preparation programs in the future.

It is interesting to observe how many of the long-standing issues surrounding personnel preparation are still unresolved. Reynolds' (1973) Delphi survey, conducted for the Professional Standards and Guidelines of the Council for Exceptional Children, also probed the issue of graduate versus undergraduate training: "Undergraduate training for special education teachers will tend to be replaced by graduate programs as required for entry into the field." This prediction was judged to be somewhat likely to occur, with an uncommitted rating on desirability. The results of the present survey indicate little change, after two decades, on perception of probability, desirability, or degree of consensus on the appropriate program level of teacher preparation. Reynolds' 1973 survey also contained an item related to categorical teacher preparation: "Certification in areas of educable mental retardation, learning disabilities, and 'emotional disturbance' will be disbanded in favor of some more general certification in special education." In 1975, respondents were uncommitted about the likelihood of occurrence and rated it as somewhat desirable. Today, professionals still do not agree on the desirability of noncategorical preparation programs.

Panelists predicted that all education majors would soon be required to take a course on teaching exceptional children and were highly supportive of this. There was less agreement concerning the desirability of special education teacher preparation programs merging with general education teacher preparation programs.

In our 1980s Delphi study, panelists did not envision significant increases in the number of special education teachers involved in direct instruction in general classrooms. A similar prediction was made in this study concerning an increase in the number of special education teachers whose main function is consulting. Seventy-eight percent of the panelists felt that a 50% increase in consulting teachers would be desirable but would not occur until after 2000. Although uncertainty exists with respect to this issue, there is a need to examine

current personnel preparation practices if teachers are to be fully prepared to assume new roles in collaboration with a broad range of colleagues in general education and in social, health, and family support services (Bruininks, Frenzel, & Kelly, 1993).

Instruction and Services

It is difficult to envision education integration without substantial instructional reform in our schools. For example, the organization of instruction in general classes is likely to have a strong impact on opportunities for students with disabilities to participate in curricular activities. Heterogeneous grouping, recommended for most cooperative learning activities, enables students of varying abilities to work together, often resulting in beneficial social/psychological and academic outcomes (Johnson & Johnson, 1989; Putnam, 1993; Slavin, 1990). It was predicted that schools will begin to group students heterogeneously by ability levels and to use cooperative learning strategies after 2000. There was a very positive response to the use of technology, such as communication devices, computers, and telecommunication, with students with disabilities. Similarly, panelists felt strongly about the importance of educators increasing their repertoires of instructional methods to accommodate greater diversity of students' rates and styles of learning.

Research

Panelists believe that the movement toward inclusion is and will continue to be influenced more by shifting societal values and philosophies than by the results of empirical research. Advocating for the use of various research methodologies, panelists support research that focuses on adult adjustment outcomes, research that matches instructional interventions with specific learner characteristics, and research on funding reorganization in the delivery of services.

Conclusion

The findings of this study must be interpreted cautiously because they reflect panelists' opinions rather than statements of fact. A suggestion for future research is to expand the sample size to enable the analysis according to various respondent subgroups, such as parents, general educators, special educators, administrators, and researchers. Although there was limited representation of panelists from a teacher's union and an association representing the field of general education, it was not adequate. Unfortunately, the representative from another teacher's union was unable to participate in both rounds of the survey. At least equal representation by panelists from the field of general education is recommended for future research. Although an attempt was made to obtain geographical representation of panelists, the final roster lacked equal representation from the southern half of the United States. Because viewpoints on the issues raised may vary regionally, this limitation in representativeness should be addressed in future research. It is also recommended that the survey questionnaire include fewer items and focus on pivotal issues in the field. Electronic mail and computer networks could be used to enable more rapid and efficient turnaround of the questionnaires.

This survey on future directions has raised some important issues and directions as we begin to address the challenges of educating students with disabilities in inclusive classrooms and schools. If the Delphi panelists are accurate, the most probable future scenario in public schools will be classrooms composed of a diversity of students whose needs will be met by teachers who possess a repertoire of instructional methodologies, as well as educational and assistive technologies. In the future, students will learn more with and from other students through cooperative learning activities and peer tutoring.

But are we limiting ourselves in thinking that education can occur only in classrooms? As indicated by the Delphi survey, some students need to receive community-based instruction. And, though not discussed in the Delphi survey, justification may exist for other types of nonclassroom learning, including distance education using interactive television or computer networking, in any location, including the home. The notion of the "classroom" as we have known it may soon be a relic of the past.

Will we be prepared to adequately educate students with disabilities in inclusive settings? How will educators and service providers keep abreast of the emerging changes occurring in the education of students with disabilities? Inclusion in general classrooms and school environments has, at times, preceded the establishment of appropriate supports and services for students and their families. Educators, families, and support personnel often need additional inservice training and opportunities to work as members of collaborative teams to implement such changes in practices. Colleges and universities must alter their programs to better prepare general and special educators to maximize learning for a diversity of students and to assume new collaborative professional roles in schools.

Can we develop services that promote both excellence and equity? Exciting new models of education are emerging nationally and internationally as shining examples of how it can be done. The challenge of creating better schools requires moving beyond ideas to make it happen. As Alfred North Whitehead said, "Ideas won't keep. Something must be done about them."

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