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ABSTRACT

A two-phase empirical investigation identified, categorized, and prioritized research needs in vocational special education for the next 10 years. Phase 1 involved 18 university personnel in a three-round Delphi technique that generated 91 future research objectives. Research statements collected from Round 1 questionnaires were used to construct nine major categories. Descriptive statistics (mean, interquartile range, median) were used to analyze second- and third-round responses in terms of future research. A high degree of consensus was achieved on 57 percent of the research statements. In Phase 2, a questionnaire containing 30 research statements identified as having highest need for future research activity were distributed to a national sample of 450 special needs professionals. A 52.9 percent response rate found a high level of perceived need for research areas listed. An exploratory factor analysis using a principal components procedure with varimax rotation generated eight major dimensions. These categories were refined through a qualitative analysis of additional research problems generated by respondents. The final research framework included professional training and development, quality measures of student outcomes, transition and delivery systems, program evaluation, relevance to vocational preparation, support systems and ancillary services, personal and sociological issues, and policy issues. (Appendixes include 17 references, participant list, and questionnaires.) (YLB)

Directions for Future Research in Vocational Special Needs Education

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Directions for Future Research in Vocational Special Needs Education

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TABLE OF CONTENTS

Page

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

In order for teachers and teacher education programs to adequately address the needs of special populations, research efforts must be proactively developed and implemented. Therefore, this two-phase empirical investigation was conducted in order to identify, categorize, and prioritize research needs in vocational special education for the next 10 years.

Phase 1 solicited the involvement of a purposive sample of 18 university personnel in a three-round Delphi technique that resulted in the generation of 91 future research objectives for vocational special needs education. Research statements collected from Round 1 questionnaires were used to construct nine major categories: Collaboration and Articulation, Curriculum and Programming, Delivery Systems, Instruction-Instructional Strategies, Policy Issues, Professional Training and Development, Program Evaluation, Student-Focused Research, and Vocational Assessment. Descriptive statistics (mean, interquartile range, median) were used to analyze second and third round responses in terms of future research needs. A high degree of consensus was achieved on 57% of the research statements generated.

Phase 2 subjected the university-based research framework to review from the field in order to validate and/or modify the tentative research agenda. A questionnaire containing the 30 research statements identified as having highest need for future research activity were distributed to a national sample of 450 special needs professionals. A 52.9% response rate found a high level of perceived need for research areas listed. An exploratory factor analysis using a principal components procedure with varimax rotation generated eight major dimensions. Further refinement of these categories occurred through a qualitative analysis of additional research problems generated by respondents.

The final research framework included Professional Training and Development (preservice/ inservice and staffing issues, vocational assessment, and enhancement of instruction), Quality Measures of Student Outcomes, Transition and Delivery Systems, Program Evaluation, Relevance to Vocational Preparation (collaboration and articulation between education and adult service agencies, education and business/ industry, and interagency cooperation), Support Systems and Ancillary Services, Personal and Sociological Issues, and Policy Issues (curriculum and programming, legislation and political mandates, and funding).

A series of *t*-tests revealed that professionals with limited or no direct student contact perceived a higher need for research on applied academics and generalizable skills strategies than direct service providers. Urban-based professionals perceived greater need for research on the impact of programs on the occupational success of students, long-term follow-up studies to compare participants and non-participants, and the effects of adult and postsecondary education on transition models.

Future investigations should continue to develop and refine major research categories, topical issues, and problems identified. A national perspective that outlined future research directions for vocational special needs was established. And, while the results of this investigation should be viewed as provisional, they may be used to help structure and advance future research efforts in vocational special needs education.

DIRECTIONS FOR FUTURE RESEARCH IN VOCATIONAL SPECIAL NEEDS EDUCATION

INTRODUCTION

The future viability of vocational special needs (*VSN*) education will increasingly be tied to research. Over the past two decades, substantial progress and increased productivity in vocational education research has occurred (Cheek, 1988; Evans, 1983); however, a persistent criticism has been that vocational education research is often conducted in fragmented segments, not related to past or future research studies or formal research goals (Cheek, 1988; Moss, 1983; Oakes, 1986; Seidman, 1986). Others have further criticized vocational education research for a lack of continuity or clear direction and focus (Cheney-Stern & Evans, 1979; Moss, 1983; Seidman, 1986). In response to these criticisms, vocational educators have focused attention on establishing direction for the future of vocational education research through frameworks and agendas (Evans, 1983; Lynch, Schmidt, & Asche, 1988; Lynch, et al., 1987).

Past national research agendas for vocational education have been established from the perspective of the field (David, 1983b; Evans, 1983) and vary in the identification and placement of *VSN* education within the total framework. Three distinct approaches have been used to identify and place *VSN* education within vocational education research frameworks including placement as a major research category (Evans, 1983; Schmidt, Lynch, & Frantz, 1988), a sub-topic of a major research category (Ertel & Neveu, 1987), or no direct mention of *VSN* research, only inferred (David, 1983a). Regardless of the approach taken to categorize *VSN* research, specific direction for inquiry is limited. Hence, the degree of attention given to the development of research priorities (needs and direction) for *VSN* education is minimal.

To ensure the viability of *VSN* education, research must be proactively developed and reflect a systematic approach to inquiry. To date, this has not occurred for *VSN* research. A prioritized research agenda for *VSN* education would allow for a focus on critical areas in need of research ensuring that both short-term and long-term needs would be addressed, help identify topics with the potential to add new knowledge to the field; effective and efficient use

of resources (Ertel & Neveu, 1987), recognition of specific contributions made to *VSN* education, avoidance of unnecessary duplication, and construction of conceptual or theoretical frameworks (Cheek, 1988; Ertel & Neveu, 1987).

PURPOSE OF INVESTIGATION

The purpose of this two-phase empirical investigation was to identify, categorize, and prioritize research needs facing *VSN* education over the next ten years. *Phase 1* solicited the involvement of university personnel in a three-round Delphi technique, resulting in the generation of future research needs for *VSN* education. *Phase 2* subjected the university-based research agenda to review from the field (*i.e.*, practitioners, administrators, state department personnel) in order to validate or modify the research agenda and individual research statements. Upon completion of the second phase, a national perspective that outlined future research directions for *VSN* education was developed. The results of this investigation may contribute to and provide structure in the advancement of research in *VSN* education.

IMPORTANCE OF INVESTIGATION FOR PRACTICAL APPLICATIONS AND ADVANCEMENT OF RESEARCH

Past vocational education research agendas view research needs and direction from a *global* perspective, often lacking specificity. To date, a detailed investigation concentrating solely on needs and direction for future research in *VSN* education has not been conducted. As a result, *VSN* education lacks direction and continuity in research activity. The present investigation addressed this gap by identifying and prioritizing future research needs and direction for *VSN* education.

Several advantages exist when a structured and programmatic approach (agenda) to research is adopted. Studies conducted with an established research agenda are cumulative and likely to lead to a better understanding of the topics being investigated (Cheek, 1988), reduce the likelihood that researchers will be isolated from critical issues in their chosen fields, and can assist both decision-makers and researchers in identifying critical areas of concern in vocational education (Ertel & Neveu, 1987).

Vocational education has been criticized for lacking clear direction or research continuity (Cheney-Stern & Evans, 1979; David, 1983a; Moss, 1983; Seidman, 1986). Continuity is critical to vocational education research. Continuity increases the probability that knowledge produced by researchers will be useful, researchers will be interested in disseminating their results, and that results will have an impact on (*i.e.*, modify) educational practice (Cheney-Stern & Evans, 1979). A structured research agenda helps to secure and maintain continuity in both research and educational endeavors.

STUDY 1

Research Objectives

A Delphi technique was used to generate responses from selected nationally-recognized vocational special needs personnel. Specific research questions for this phase of the study included:

1. What should the research needs of vocational special needs education be for the next ten years?
2. What are the major research categories, identified by special needs personnel, for vocational special needs education over the next ten years?
3. What should the priorities be within identified special needs research categories?

Methods

Participants

Participant selection occurred through a purposive sampling procedure (Miles & Huberman, 1984) using the following criteria: Full-time employment in vocational special needs education at a 4-year postsecondary institution with an on-going, full-time vocational special needs program. This particular group of individuals were selected due to the nature of their work and degree of involvement in vocational special needs education. Of 21 vocational special needs teacher-educators initially selected to participate in this study, 18 completed the entire three-round survey process (Appendix A lists all *Phase 1* participants).

Design and Instrumentation

A three-round Delphi technique was selected as the most appropriate method to attain consensus among the panel of selected experts. The Delphi technique is a surveying procedure that provides for the systematic solicitation and collation of judgments on a particular topic through a set of carefully designed, sequential questionnaires interspersed with controlled feedback (Van de Ven & Delbecq, 1974).

Round 1 of the Delphi process consisted of an open-ended questionnaire that directed participants to identify research needs and direction which they felt should be pursued and/or considered for vocational special needs education over the next ten year period (see Appendix B). All written responses obtained from this process were coded and categorized using an "empirically" grounded (*i.e.*, inductive) coding scheme (Miles & Huberman, 1984). An inductive coding scheme was chosen as the most appropriate methodology for categorizing data because of the qualitative research design. Qualitative studies in general and the present study in particular emphasize exploration and discovery. Successful qualitative studies rarely, if ever, involve predisposed ideas or structured categories of thinking prior to data collection (Miles & Huberman, 1984). In this instance, it was important that the collected data drive and shape the coding and categorization process. Categorized statements were submitted to a five-member panel who reviewed the established categories, category definitions, and assignment of individual research statements to these categories. Results of the panel review were considered when structuring the questionnaire used for subsequent rounds.

Second round questionnaires listed all unduplicated research questions/problems (obtained from Round 1 questionnaires) and major research categories (identified by the empirical coding process). Respondents were asked to rate each identified research statement on a 5-point Likert type scale on the basis of need (*1 = No Need, 2 = Little Need, 3 = Medium Need, 4 = High Need, 5 = Highest Need*) and prioritize (rank order) major research categories as each related to a future research agenda for vocational special needs education (see Appendix C). On receipt of all Round 2 questionnaires, the following descriptive statistics were computed using the *SPSS* computer package; interquartile range (middle 50% of scores), mean, and median.

Questionnaires for the third and final round directed participants to review individual and group responses (descriptive statistics) to each of the research priority statements. Using this information, they were asked to make a second (final) rating on the relative need for future research in the area(s) represented (see Appendix D).

Results

The three-round Delphi survey process produced a 91 individual research priority statements that were distributed among nine major research categories.

Major Research Categories

Upon return of Round 1 questionnaires, nine categories of research emphasis were constructed on the basis of common themes identified in the statements. Research items and their division into categories were operationally defined and submitted to a five-member panel for review and confirmation. Research categories and their definitions included:

- **COLLABORATION and ARTICULATION RESEARCH.** A problem-solving strategy using the scientific method (*i.e.*, quantitative and/or qualitative approaches) which focuses on cooperative interaction between vocational special needs education and other services, agencies and educational institutions. Collaboration is concerned with cooperatively working together, while articulation is defined as expressed agreements and connections between parties at the secondary and postsecondary levels.
- **CURRICULUM and PROGRAMMING.** Research on curriculum and programming represents a problem-solving strategy using the scientific method (quantitative and/or qualitative techniques) and includes activities and issues that focus on the global directions, types (programming concepts and philosophy), and content of vocational special needs programs.
- **INSTRUCTION-INSTRUCTIONAL STRATEGIES RESEARCH.** A problem-solving strategy using the scientific method (quantitative and/or qualitative techniques) focusing on activities and issues surrounding teacher implemented strategies and techniques used in the field. Research in this category is concerned with improving the quality and effectiveness of teachers; it is specific to teacher-initiated activities and does not include global programming or curriculum issues.
- **POLICY ISSUES RESEARCH.** A problem-solving strategy using the scientific method (*i.e.*, quantitative and/or qualitative approaches) with a main focus on federal, state, and local legislation impacting on vocational special needs; the actions taken by governmental agencies and personnel; and actions/issues dealt with by special needs program (agency) administrators.
- **PROFESSIONAL TRAINING and DEVELOPMENT RESEARCH.** A problem-solving strategy using the scientific method (*i.e.*, quantitative and/or qualitative approaches) that is concerned with issues and activities surrounding professional teacher preparation and development. Preservice (initial preparation) and inservice training (on-going maintenance and improvement of skills and knowledge) are both considered part of this category.
- **PROGRAM EVALUATION RESEARCH.** A problem-solving strategy using the scientific method (quantitative and/or qualitative techniques) to measure the effectiveness and results of vocational special needs programs (*e.g.*, determination of student outcomes, program effectiveness, measures to determine program quality, etc.). Includes an examination of program validity, the impact of programming on schools, and a discovery of new issues or ideas resulting from programs. Program evaluation does not include activities to determine individual student involvement.

- **STUDENT-FOCUSED RESEARCH.** A problem-solving strategy using the scientific method (*i.e.*, quantitative and/or qualitative approaches) that studies student-specific issues and is designed to provide a better understanding of special populations in vocational programs. Research might include descriptive demographic information, student characteristics, attitudes and/or abilities, as well as related areas of inquiry.
- **VOCATIONAL ASSESSMENT RESEARCH.** A problem-solving strategy using the scientific method (*i.e.*, quantitative and/or qualitative techniques) that examines issues related to the process of determining individual aptitudes, skills, characteristics, and work-related behavior which assist in vocational decision-making.
- **VOCATIONAL SPECIAL NEEDS DELIVERY SYSTEMS RESEARCH.** Research on vocational special needs delivery systems represents a problem-solving strategy using the scientific method (quantitative and/or qualitative techniques) that investigates methods and specific providers of instructional and/or program delivery.
- **MISCELLANEOUS RESEARCH.** A problem-solving strategy using the scientific method (*i.e.*, quantitative and/or qualitative approaches). Research statements placed in this category did not fit into any of the other research categories and represent varied emphases.

Categorical mean ratings were calculated for the major divisions upon completion of Round 3 questionnaires (see Table 1).

Table 1. *Categorical Mean Ratings for Major Research Areas.*

Final Categorical Mean Order	Research Category	Category Mean	N[a]
1	Program Evaluation	3.359	(18)
2	Professional Training and Development	3.349	(8)
3	Curriculum and Programming	3.339	(11)
4	Delivery Systems	3.302	(9)
5	Policy Issues and Related Research	3.297	(9)
6	Collaboration and Articulation	3.150	(10)
7	Instruction / Instructional Strategies	2.817	(7)
8	Student-Focused Research	2.486	(7)
9	Assessment and Related Issues[b]	3.757	(3)
	Miscellaneous Research[c]	3.134	(9)

[a]*N* represents the total number of individual research priority statements included in the major research category.

[b]Assessment and related issues research was included after Round 2. This research area was not included in the categorical mean ordering due to a limited number of priority statements ($N = 3$).

[c]The miscellaneous research area was not included in the categorical mean ordering due to a lack of thematic research focus.

Individual Research Priority Statements

A total of 91 research priority statements were received from Round 1. Statements were randomly placed within the questionnaire used for the second and third rounds. Round 2 required participants to rate each identified research statements on the basis of need using a 5-point Likert type scale (*1 = No Need, 2 = Little Need, 3 = Medium Need, 4 = High Need, 5 = Highest Need*). Round 3 provided each participant with individual Round 2 responses, as well as descriptive statistical data on group response for each statement (*i.e.*, mean, interquartile range, and median). Respondents were asked to consider the information provided and then make a final rating for each research statement.

Final round scores for individual research statements ranged from a high mean of 4.28 to a low mean of 1.67. Two items tied for the highest mean rating including one statement that examined the impact of vocational education on the drop-out rate of "at-risk" youth and a second statement that asked how a functional curriculum can be given as much importance as an academic curriculum in a time when school reform focuses only on academics. The lowest mean rating was 1.67 for a research statement investigating the types of cognitive differences that exist (if any) between special needs students and non-special needs students. An overall mean rating of 3.02 (SD = .596) was calculated for the 91 research statements. Table 2 provides a listing of all individual research priority statements in order of their perceived need within major research categories and Round 3 (final) descriptive statistical results.

Two research categories represented high levels of need for future research in vocational special needs education. Program evaluation research contained the most research items of any category and also had the highest overall mean rating. Final mean scores ranged from a high of 4.28 for research to examine the impact of vocational education on the drop-out rate of "at-risk" youth to a low of 2.28 for research to determine how vocational special needs can concurrently serve the purposes of quality and equity. The highest rated statements in the category of professional training and development examined the effectiveness of teaching methods used for "at-risk" students (M = 3.67).

Table 2. *Final Mean Ranking of Research Priority Statements Within Major Research Categories.*

Rank	Research Priority Statement	Mean	IQR	Mdn
Student-Focused Research				
1	Describe the demographics of identified students with handicaps currently enrolled in vocational education programs (*e.g.*, how many *VSN*-handicapped students are enrolled, in what kinds of programs, and types of disabilities served).	3.00	2-3	3
2	What is the degree of applicability of existing theories of learning style to special needs learners?	2.89	2-3	3
3	Describe the demographics of students with handicaps who are not enrolled in vocational education but would like to be (*e.g.*, how many, what are their disabilities, what are the reasons for their not being in vocational education courses?).	2.83	2-4	2
4	To what degree do existing theories of occupational choice apply to special needs students?	2.67	2-3	3
5.5	Identification of upper and lower functional parameters which can be used to define (identify) special needs students.	2.17	1-3	2
5.5	How can we identify special needs learners earlier in their educational careers?	2.17	1-3	2
7	What types of cognitive differences exist between special needs and general education students?	1.67	1-2	1
Instruction and Instructional Strategies Research				
1	Compare and contrast strategies to increase self-esteem in "at-risk" students.	3.72	3-4	4
2	Develop and compare critical thinking/problem solving strategies for special populations.	3.06	2-4	3
3	Compare and contrast instructional strategies for vocational instructor/teacher preparation.	3.00	2-4	4
4	Examine how special needs students can be motivated, as a subset of instructional strategies.	2.72	2-3	3
5	How can vocational educators integrate positive role models in special needs instruction and what are the effects of doing so?	2.67	2-3	2.5
6	How do intrinsic and extrinsic motivation-related factors affect learning and teaching?	2.33	2-3	2.5
7	Are there more efficient and less time-consuming planning processes for special needs students than the current *IEP* process?	2.22	1-3	2
Policy Issues and Related Research				
1	How can we make a more functional curriculum as important as academics in a time when school reform focuses only on academics?	4.28	4-5	5
2	How do increased graduation requirements impact on vocational preparation of *VSN* individuals?	4.22	4-5	4.5
3	Examine possible changes in federal support programs (*e.g.*, *SSI*, *SSDI*) for special needs individuals. Would changes provide greater opportunities for students with special needs?	3.50	2-5	3.5
4	What are effective funding-staffing policies and procedures which facilitate cooperative delivery of vocational special needs service across the fields of vocational and special education?	3.39	3-4	3
5	What incentives are needed to keep vocational special needs programs alive and viable? What does it take to keep districts and states in vocational special needs (*i.e.*, federal legislation, set-asides)?	3.28	3-4	3
6	How can vocational education insure that vocational courses count toward graduation requirements for special needs students who cannot pass more English, science, and math?	3.17	2-4	3
7	Is federal support, in terms of legislation and fiscal resources, necessary for improved vocational education related programs and services to students with special needs?	2.94	2-3	3
8	What are the goals, purposes, and learner outcomes for vocational special needs education?	2.72	2-3	2.5
9	Will individualized planning mandates expand, stabilize, or diminish across special needs groups?	2.17	3-5	4
Professional Training and Development				
1	Describe and compare methods of teacher effectiveness training for educators of "at-risk" students.	3.67	3-4	4
2.5	How can regular vocational educators best be prepared to accommodate students with increasingly severe special needs?	3.56	3-4	3.5
2.5	Which teacher education program components/strategies are effective at enabling teachers to successfully accommodate a diverse array of special needs learners in vocational education programs (and expand the diversity of special needs learners enrolled in vocational education)?	3.56	3-5	3
4	What training needs are still evident in vocational special needs today for professionals who administer, teach, and provide support services for vocational special needs programs?	3.33	3-3	4
5	What are unique requirements and competencies of personnel who work with special needs students in integrated vocational settings? in self-contained settings?	3.28	3-4	3
6	To what extent should vocational special needs teacher education programs be separate from or integrated into regular vocational education programs?	3.22	2-4	3
7	What are the most effective models of preparation for vocational special needs personnel?	3.11	2-4	3
8	What training is required for vocational education and adaptive vocational education teachers/instructors related to students with special needs?	3.06	2-4	3

Rank	Research Priority Statement	Mean	IQR	Mdn
Program Evaluation Research				
1	Does vocational education have a significant impact on the drop-out rate of "at-risk" youth?	4.28	4-5	4.5
2	What are appropriate outcome measures for determining effects of local *VSN* programs?	4.17	4-5	4
3.5	What are the long-term effects which special needs students have after receiving support services while enrolled in vocational education (*i.e.*, longer employment records, income, better self-esteem)?	4.06	3-5	4
3.5	How do we measure the results of special needs programs? What should be considered important in conducting program reviews and/or evaluations (*i.e.*, skills attained, job placement, etc.)?	4.06	4	4
5	What is the economic impact of vocational education on "at-risk" youth?	4.00	3-5	4
6	In what ways do various program components (*e.g.*, assessment) interact with student outcomes (*e.g.*, employment, earnings, further education)?	3.94	3-5	4
7	What is the adequacy, quality, and effectiveness of vocational programs on occupational success of special participants?	3.89	3-5	4
8	Follow-up study of special needs graduates and nongraduates of vocational training programs to include: employment status and satisfaction with life (*e.g.*, self esteem, marital status, income levels).	3.56	3-4	4
9	Is vocational education providing special needs students with training in occupations which correlate with existing job offerings?	3.50	3-4	4
10	How can access to, and equity within, regular vocational education programs by special needs students be monitored across the country in ways that are reasonable in their reporting burden and aggregatable across locales, regions, and states?	3.33	3-4	3
11	Determine the effects of providing services such as child care, transportation, etc. upon training and subsequent employment.	3.28	3-4	3
12	What are long-term effects of supported work programs on employment of persons with disabilities?	3.17	2-4	3
13	What strategies best enable teachers to effectively follow-up special needs clients and determine program impact on those clients?	2.94	2-3	3
14	What are long-term effects of involvement in pre-vocational education (*i.e.*, practical arts) on special needs learners?	2.61	2-4	2
15	Does participation in vocational education lead to a better employment history and/or grades in academic achievement versus lack of participation?	2.56	2-3	2
16	Does vocational education afford "at-risk" youth opportunities to leave environment of the inner-city?	2.50	2-3	2
17	Research to examine the fiscal efficacy of programs for vocational special needs students.	2.33	1-3	2
18	To what extent can *VSN* programs concurrently serve the purposes of quality and equity?	2.28	2-3	2
Curriculum and Programming				
1	How will the interaction of changing demographics (*i.e.*, aging society, increased number of minorities) and changing workplace requirements (*i.e.*, increasing technologies, emphasis on adaptability and problem-solving skills) in the 1990s affect vocational curricula and vocational outcomes for special needs students?	4.06	4-5	4
2	What are the long range (5-10 years) follow-up services that should be provided to secondary special needs graduates and program leavers?	3.72	3-5	4
3	To what extent have community colleges identified and provided viable programs focused on the unique needs of students who have been primarily in resource settings in secondary schools and may not have had opportunity to participate in vocational training or work experience programs?	3.61	3-4	4
4	Methodology for integrating instruction of related academics with core vocational programming.	3.56	3-4	4
5	Examination of applied academic skills and generalizable skills strategies for special populations.	3.50	3-4	4
6.5	How can regular vocational education curriculum best be designed to accommodate students with increasingly severe special needs problems?	3.22	2-4	3
6.5	What is vocational education's role in supported employment and w/ persons with severe disability?	3.22	2-4	3
8	What is the effect of the *IEP* process on access and equity for special needs learners?	3.11	3-4	3
9	Determine the levels and types of jobs for which vocational training must be targeted and determine which strategies are most effective in the schools?	3.06	2-4	3
10	Current status of adaptive vocational education programming (*e.g.*, how many school districts offer adaptive vocational education, what is the nature of such programming, what placement criteria are needed?).	2.89	3	3
11	How do economic conditions impact nature and degree of employment training options for special needs individuals?	2.78	2-4	3
Assessment and Related Research				
1	What vocational assessment models are most useful?	3.94	4	4
2	Which types of curriculum- and placement-based assessment procedures provide the most useful information to those making decisions about the placement and participation of youth with special needs in vocational programs?	3.83	3-4	4
3	Current state of the art in vocational assessment practices in secondary vocational education.	3.50	3-4	4

Rank	Research Priority Statement	Mean	IQR	Mdn
Delivery Systems Research				
1	What discrepancy exists between the continuing program and service needs of special needs individuals exiting public schools and the capacity of adult service providers to meet those needs?	3.89	3-5	4
3.5	Compare and contrast community-based work experience training and classroom-based training programs with respect to the acquisition of skills and permanent employment.	3.61	3-4	4
3.5	What support models are most efficacious regarding different needs of individuals?	3.61	3-4	4
3.5	Effect of least restrictive environment placements on the achievement of special needs learners?	3.61	3-4	4
3.5	Effects of postsecondary continuing and adult education on transition models for special populations.	3.61	2-5	4
6	What alternatives are available to provide vocational special needs education to special needs students in schools that do not offer vocational courses?	3.11	2-4	3
7	A comprehensive study of all various adult service providers/agencies resulting in the production of a model that would make services more accessible, efficient, and worthwhile.	3.06	2-3	3
8	Compare and contrast vocational training for special needs populations in secondary and postsecondary settings.	3.00	2-4	3
9	Compare and contrast current service delivery models with an individual education contractor model of providing services to students with special needs.	2.22	2-3	2
Collaboration and Articulation Research				
1	What processes, collaborative arrangements, and financial considerations need to be addressed when attempting to institutionalize model transition programs, especially at the postsecondary level where ownership and responsibility are in question?	3.78	3-5	4
2	What are the components of effective collaboration between vocational classroom teachers and industry to better prepare "at-risk" students for employment?	3.72	3-4	4
3	What are effective inter-agency collaboration models?	3.44	3-4	4
4	The relationship between vocational special needs programming and the transition planning process for youth with special needs.	3.33	2-4	3.5
5.5	Articulation between secondary and postsecondary institutions for special populations (*e.g.*, information, services, application procedures, testing).	3.28	2-4	3.5
5.5	What intervention and collaborative strategies are most efficient for facilitating interagency cooperation and how can these be taught to transition specialists?	3.28	2-4	3.5
7	How can job placement for special needs students best occur with other agencies?	3.00	2-4	3
8	Coordination of community-based transitional services for special populations.	2.89	2-4	3
9	Procedures or methodology to assist special needs programming and the transition planning process for youth with special needs.	2.61	2-3	3
10	How can the transition process be standardized for all special needs students?	2.17	1-3	2
Miscellaneous Research Category				
1.5	How will the changing nature of the workforce affect training and employment opportunities for special needs learners?	4.00	3-5	4
1.5	Given the changes in the workforce and the growing delivery in America's population (youth and adults), what should be done to accommodate these trends in *VSN* programs and services?	4.00	3-5	4
3	What will be (should be) the role of the family in serving special needs students in the next decade?	3.72	3-4	4
4	How can the predicted labor shortages of the 1990s be targeted on behalf of special needs students?	3.44	3-4	3.5
5	Determine the state of the art in vocational special needs by in-depth naturalistic inquiry of parents, consumers, employers, educators, service providers, and advocates.	3.33	3-4	3
6	Research which addresses the socio-economic needs of homeless in America and its relationship to *VSN* programs.	2.72	2-4	2.5
7.5	Conduct a meta-analysis of the writings and research conducted in the field of vocational special needs from 1975-present and/or contrasting studies up to 1975.	2.61	2-4	2
7.5	With a meta-analysis or other statistical technique, determine the primary and secondary causes of job termination (*e.g.*, low production).	2.61	2-3	2.5
9	To what extent are vocational special needs specialists professionally integrated in professional organizations (*e.g.*, AVA)?	1.78	1-3	1

Four of the categories represented a medium level of need for future research efforts. Inquiry into the effects of both a changing workforce and changing demographics in society on the vocational outcomes of students with special needs was perceived as the area of highest need for research in curriculum and programming (M = 4.06). Delivery systems research stressed an examination of the possible discrepancies that might exist between required program and service needs of students exiting high school and the current capacities of adult service providers to meet them as the area most in need of future research effort (M = 3.89). Respondents were concerned with methods of making a functional curriculum as important as an academic one in a time of academic reform. This was the highest rated research need for the area of policy issues research (M = 4.28). The highest rated statement in the category of collaboration and articulation sought a delineation of responsibilities for service providers in the transition process, especially at the postsecondary level (M = 3.78).

Two categories were perceived as having low need for future empirical investigation - research on students and instruction. Strategies to increase self-esteem of "at-risk" youth was identified as the area of research representing the highest need for the instruction-instructional strategies category (M = 3.72). The highest perceived need in the category of student-focused research was to describe the demographic composition of students with handicaps currently enrolled in vocational education programs (M = 3.00).

Vocational assessment was added as a major category following the completion of Round 2 and contained the fewest research items of any category. It was not considered in the final category ratings due to the limited number of statements. A miscellaneous category was developed for research statements not meeting the definitions established for the nine identified research categories.

Group Consensus

Typically, the Delphi technique is used to achieve group consensus among participants. Consensus is determined using the interquartile range of each research priority statement. Interquartile range refers to the middle 50% of responses for each statement (*i.e.*, distance between first and third quartiles). The interquartile range for the 91 research priority

statements ranged from 1.00 to 3.00 on a 5-point Likert-type scale. With only one exception, categorical mean scores and corresponding rank order for major research categories were consistent between Round 2 and Round 3. The mean score of seven categories increased after the third iteration, while two categories had a decreased mean score. Table 3 displays the nine major research categories and categorical mean scores after the second and third rounds.

Table 3. *Descriptive Statistical Summary of Round 2 and Round 3 Delphi Responses to Major Research Categories.*

Major Research Categories	*N*[a]	Group Responses from Round 2			Group Responses from Round 3		
		Mean[b]	*SD*	Rank	Mean	*SD*	Rank
Vocational Assessment[c]	3	3.66	.27	9	3.75	.23	9
Collaboration & Articulation	10	3.06	.40	6	3.15	.50	6
Curriculum & Programming	11	3.23	.40	3	3.34	.39	3
Delivery Systems	9	3.17	.41	5	3.30	.51	4.5
Instruction Related Research	7	2.81	.33	7	2.82	.51	7
Policy Issues	9	3.20	.59	4	3.30	.67	4.5
Professional Training and Development	8	3.33	.21	1	3.30	.51	2
Program Evaluation	18	3.26	.60	2	3.36	.68	1
Student-Focused Research	7	2.53	.37	8	2.49	.49	8

[a]**Note.** Ninety-one research statements were generated from Round 1, however, nine of these statements did not fit into an identified research category and were placed in a miscellaneous category. These nine statements are not represented.

[b]Categorical means were calculated using the mean scores of items in each major research category. Participants used a Likert-type scale (*1 = Least Need, 5 = Highest Need*) to indicate their perceptions as to the degree of need each research statement held for vocational special needs education over a ten year period.

[c]Vocational Assessment was added to the list of major research categories during Round 2; hence, the Round 2 mean score was calculated with only 1 response. Due to the limited number of research statements included in this research category (n = 3), it was not considered in Round 3 rankings.

While mean scores for the nine major research categories remained stable between the second and third rounds, the Delphi process did influence the responses obtained for research statements during Round 3. Of the 91 research priority statements originally identified, only two maintained their identical Round 2 rating at the end of Round 3. An increase from Round 2 to Round 3 ratings occurred in three-fourths (N = 65) of all research statements, while ratings for 24 items decreased from Round 2 to Round 3.

The strength of group consensus was determined for each item by comparing the interquartile range for Round 2 and Round 3. A reduction in the interquartile range was translated to mean an increase in the degree of consensus held for that statement (i.e., less variability in responses). In this study, Round 3 ratings produced a total of 57 statements (40.7%) in which the interquartile range was reduced from the previous round, indicating a movement toward consensus on those items.

Responses considered to have a high degree of consensus were those with a final interquartile range of 1.00 or less. In the current study, a total of 52 research statements (57%) had a Round 3 interquartile range of 1.00 or less. Alternately, low degree of consensus was identified by a final interquartile range of 2.00 or more (Horadal, 1987). A low degree of group consensus was found for 43% of the originally submitted items. A frequency breakdown for all research priority statements includes three items with an interquartile range of less than 1.00, forty-nine statements with an interquartile range of 1.00, thirty-seven research items with an interquartile range greater than 1.00 but less than 3.00, two statements with an interquartile range of 3.00 or more (see Table 4).

Provisional Research Agenda

Most often research is not contained within isolated research categories but involves aspects from several categorical areas. Possible interactions and complexities are often present in actual research efforts, but not recognized in categorical research agendas. It is important that researchers and practitioners alike recognize and understand the relationships among these major categories of research. For this reason, a provisional

Table 4. *Importance of Research Priority Statements: High and Low Consensus.*

High Consensus			Low Consensus		
IQR[a]	*N*	Mean	*IQR*	*N*	Mean
4 - 5	7	4.14	3 - 5	11	3.86
3 - 4	25	3.50	2 - 5	1	3.50
2 - 3	19	2.66	2 - 4	21	3.05
1 - 2	1	1.67	1 - 3	6	2.14

Note. Respondents were asked to rate each research statement on the basis of need using a 5-point Likert type scale (*1 = Least Need, 5 = Highest Need*).

[a]*IQR* represents Interquartile Range.

research framework for systematic investigation of vocational special needs education was constructed to outline potential relationships between the various research categories identified in this study.

The framework illustrates an underlying and supportive logic to future research in vocational special needs education. Policy issues play a major role in shaping global directions for research through the identification of funding priorities and legislative mandates. Student-focused research addresses the question, "Who is being served by vocational special needs education?" Results from student-related research have a direct impact on the type of education and support services provided. On a macro-level, research on curriculum and programming addresses this concern by examining the overall direction of education in vocational special needs. Similarly, delivery systems research not only investigates the content of what is being taught, but also the types of environments in which it is offered. On a micro-level, research on assessment and instruction/instructional strategies examines the specific techniques and strategies used by classroom teachers. Throughout the

three research categories - curriculum and programming (global), delivery systems (both global and specific), and instruction (specific) - a number of issues concerning collaboration and articulation between secondary and postsecondary personnel, programs, and agencies must be addressed. Professional training and development research seeks to find more effective and efficient means of preparing individuals to implement successful vocational special needs programs. Program evaluation permeates the entire system to such a degree that it is contained within each category. A miscellaneous category (not included on the diagram) includes those existing issues which are peripheral to main categories but must be addressed (see Figure 1).

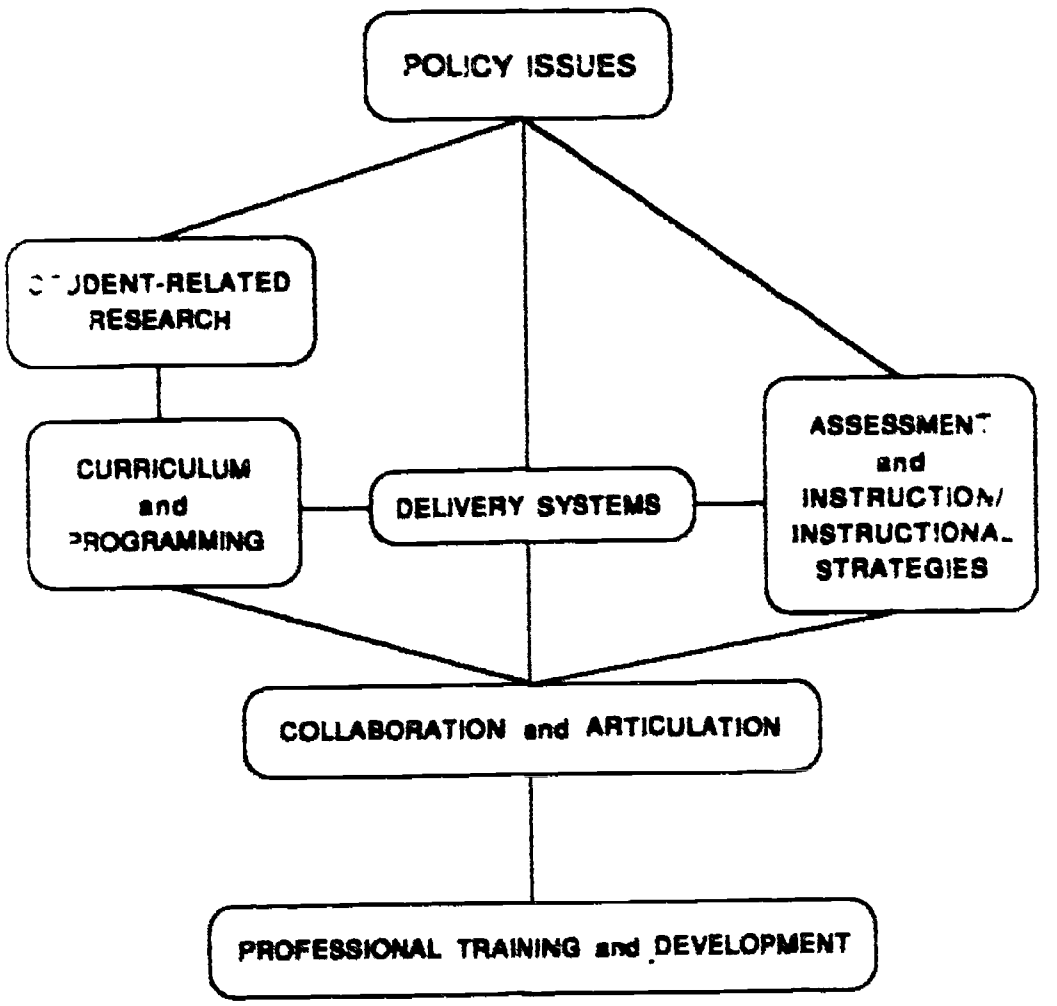

Figure 1. *A Provisional Framework for Research Priorities in Vocational Special Needs Over the Ensuing Ten-Year Period as Perceived by Special Needs Personnel*

STUDY 2

Research Objectives

The initial list of research statements generated by university-affiliated personnel was refined and subjected to review from special needs personnel in the field. Specific research objectives and questions were:

1. To identify and describe field-wide priorities in research for vocational special needs education over the next ten year period.

   A. Collectively, what are the perceptions of practitioners toward research problems in vocational special education needing to be empirically examined over the decade?

   B. What are the underlying dimensions or constructs of future research in vocational special needs education?

2. To describe and compare the response patterns of professionals in vocational special needs education related to development of a research agenda.

   A. Do selected demographic variables (e.g., state program administrators or high school personnel, rural or urban environment) account for observed differences in perspectives toward future research needs?

3. To solicit additional research statements from vocational special needs professionals in areas presenting the highest need for research over the next 10 year period .

Methods

Participants

A national sample of 450 individuals involved in vocational special education were selected for participation. The sample was randomly selected from a total population of over 4,500 individuals listed with the Technical Assistance for Special Populations Project (*TASPP*), National Center for Research in Vocational Education, University of Illinois at Urbana-Champaign site. The *TASPP* listing was used as a selection criterion in order to obtain a national sample of personnel involved at varying levels in vocational special needs education. It was the intent of the researchers to include individuals that represented a variety of duties and roles within vocational special education (*e.g.*, university faculty, state-level program administrators, high school teachers and administrators).

A total of 238 usable questionnaires were returned and included in the final research sample. The majority of those responding were female (65.1%) with half of the total sample

between 37 and 49 years of age (M = 42.57). A comparable number of participants reported working in urban (39.9%) and rural (38.2%) environments, while the remainder worked in suburban settings (21.0%). Over half of the sample reported direct contact with students from special populations in roles such as teacher, counselor, and transition specialist (n = 141). Others worked in more non-direct types of vocational special education positions such as program administrator (n = 75) and university faculty member (n = 20).

The sample was well educated with three-fourths (74.2%) holding the masters degree or doctorate. In addition, participants held positions in vocational special education from 1 to 35 years, averaging 11.20 years (SD = 7.02). Over half were employed for 10 years or more in vocational special needs education. Respondents' expertise was categorized into three groups including a primary concern for students with disabilities (43.7%), a major emphasis on students considered disadvantaged (20.2%), and those who served both disabled and disadvantaged student populations equally (31.9%).

Design and Instrumentation

The survey instrument contained a total of 30 statements that described needed research in vocational education for special populations. These research priorities were selected from the total pool of 91 statements generated by university-affiliated personnel (see Study 1). In order to include the most highly rated research statements from the first study (both high and low consensus items), selection criteria were established. All high consensus items with a median score of 4.00 or above (on a 5-point scale) were included. These statements had been identified as being important research issues by a majority of the participants. Low consensus items were included if the statement's mean score was greater than or equal to 3.50. These items were included even though a lack of consensus existed among respondents because the high mean scores indicated a general perception among the group that these items were also important.

Based upon the established selection criteria, 35 research statements were identified. Five items were combined with similar statements also selected leaving a total of 30 research statements for inclusion on the final version of the questionnaire. Participants were asked to respond to these 30 items using a five point Likert-type scale (*1 = Least Need, 3 = Moderate Need,*

5 = *Highest Need*). A response category labeled *"Don't Know"* was also available. The questionnaire contained a demographic section that asked respondents to indicate basic personal identification information (*e.g.*, gender, age, years of experience, current employment position, state of residence). After rating the identified research priority statements, respondents were encouraged to add research needs statements which were not addressed in the questionnaire (see Appendix E).

Procedure

A random mailing list of 450 vocational special needs personnel was obtained from *TASPP* records. The questionnaire, a one-page cover letter explaining the purpose of the study, and a self-addressed stamped envelope were mailed in October, 1990. A follow-up mailing was sent to those not responding to the initial questionnaire following a three-week waiting period. Responses were collected for an additional three weeks at which time data collection ceased. This procedure resulted in a total of 238 usable questionnaires being returned for a response rate of 52.9%. The possibility of bias between early and late responses was examined, however, no significant differences were detected, $t(137) = -.19$, *n.s.*

Data Analysis

The *SPSS* statistical package was used to generate a combination of descriptive and inferential statistics that addressed the objectives of this study. Demographic information was used to develop a profile of respondents and also to stratify data for inferential statistical analysis. The 30 research priority statements were subjected to a factor analysis in order to identify underlying constructs represented by the statements. A series of *t*-tests were performed to determine whether special needs personnel elicited different responses to research needs based on their position within the field and work environment. The possibility of committing a Type I error (*i.e.*, rejecting a true null hypothesis) was considered an important statistical element to address since multiple statistical tests were conducted. To address this concern, an alpha level of .01 was selected for all statistical tests (Moore, Burnett, & Moore, 1986). Analysis assumed a qualitative perspective for responses to the request for additional

research statements not included in the questionnaire. These responses were recorded, categorized, and analyzed according to their primary research focus.

Results

Objective 1

Collective perceptions of VSN professionals. The first objective determined priorities for vocational special needs research using previously identified research statements. Initially, descriptive statistics (mean and standard deviation) were generated for each item in order to examine the response patterns for all 30 research statements. An overall mean of 3.96 (*SD* = .20) revealed a high level of perceived need for the research areas identified. Group response ranged from a high mean score of 4.36 (*SD* = .79) to a low mean of 3.67 (*SD* = .95). Collectively, the highest rated item focused on research to increase the acceptance of a functional curriculum in relation to an academic one. Conversely, the examination of community college involvement in establishing viable programs for special needs learners was presented as the lowest need for future research. Table 5 displays group response to individual research priority statements.

Major research dimensions. The first objective also sought to clarify the perception of *VSN* professionals by identifying underlying themes or dimensions represented by the research priority statements. To achieve this end, an exploratory factor analysis was performed by using a principal-components procedure with varimax rotation. A total of eight factors were selected for rotation using a combination of Kaiser's criterion, Cattell's scree test, and the percentage of variance accounted for by the last factor and entire factor solution (Tinsley & Tinsley, 1987). The resulting eight-factor solution accounted for 59.1% of the total variance (see Table 6).

All scale items with a factor loading of .40 or higher were considered in determining the underlying construct represented by each factor. Research statements that loaded on Factor 1 dealt with enhancing the instruction provided to students from special populations. Three

Table 5. *Prioritized Needs for Future Directions of Research in Vocational Special Needs Education.*

Rank	Item No.	Research Priority Statement	M	SD
1	(1)	How can a functional curriculum be made as important as an academic one at a time in which school reform focuses only on academics?	4.36	.79
2	(9)	What are components of effective collaboration between vocational classroom teachers and industry to better prepare "at-risk" students for employment?	4.25	.87
3	(3)	Does vocational education significantly impact on drop-out rates of "at-risk" youth?	4.22	.86
4	(2)	How will interaction of changing demographics (i.e., aging society, increased number of minorities) and changing workplace requirements (i.e., increasing emphasis on adaptability, problem-solving skills) in the 1990s affect vocational curricula and vocational outcomes of special needs students?	4.21	.89
5	(20)	Is vocational education providing students with special needs training in occupations which correlate with existing job offerings?	4.18	.93
6	(6)	What is the adequacy, quality, and effectiveness of vocational programs on occupational success of special participants?	4.16	.87
7.5	(21)	How do we measure the results of special needs programs? What should be considered important in conducting program reviews and/or evaluations (i.e., skills attained, job placement, etc.)?	4.11	.94
7.5	(22)	What training needs are evident for professionals who administer, teach, and provide services for vocational special needs programs?	4.11	.88
9	(23)	What methodologies are most effective for integrating the instruction of related academics with core vocational programming areas?	4.10	.89
10	(19)	Which types of curriculum- and performance-based assessment procedures provide the most useful information to those making decisions about placement and participation of special populations in vocational programs?	4.09	.92
11	(28)	Which teacher education program components/strategies (if any) are effective at enabling teachers to successfully accommodate a diverse array of special needs learners in vocational education programs (and expand the diversity of special needs learners enrolled in vocational programs)?	4.08	.95
12	(8)	What is the economic impact of vocational education on "at-risk" youth?	4.02	.98
13	(13)	What are long-term effects (if any) which special needs students have after receiving support services while enrolled in vocational education (i.e., longer employment records, better self-esteem)?	4.02	.87
14	(4)	Use of applied academic skills and generalizable skill strategies in programs for special populations.	4.01	.92
15	(26)	Compare and contrast community-based work experience training and classroom-based training with respect to the acquisition of skills and permanent employment.	3.96	1.03
16	(10)	What are the long-range (5-10 years) follow-up services that should be provided to secondary special needs graduates and program leavers?	3.88	.97
17	(16)	What will be (should be) the role of the family in serving special needs students in the next decade?	3.87	.96
18	(29)	What processes, collaborative arrangements, and financial considerations need to be addressed when attempting to institutionalize model transition programs, especially at the postsecondary level where ownership and responsibility are in question?	3.86	1.02
19	(27)	What are the effects of postsecondary continuing and adult education on transition models for special populations?	3.85	.91
20	(11)	What is the impact of increased graduation requirements on vocational preparation of special needs individuals?	3.83	1.05
21	(25)	Describe and compare methods of teacher effectiveness training for educators of "at-risk" students.	3.82	.96
22.5	(5)	Examination of possible changes in federal support programs (e.g., SSI, SSDI) for individuals with special needs. Would changes provide greater employment opportunities for special needs students?	3.80	.92
22.5	(15)	Compare and contrast strategies to increase self-esteem in "at-risk" students.	3.80	1.05
24	(7)	What are effects of least restrictive environment placements on achievement of special populations?	3.79	.97
25	(17)	In what ways do various program components (e.g., assessment) interact with student outcomes (e.g., employment, earnings, further education)?	3.78	.96
26	(24)	Follow-up study of special needs graduates and non-graduates of vocational training programs to include (1) employment status, (2) satisfaction with life (i.e., self-esteem, marital status, income level).	3.77	1.02
27.5	(18)	What discrepancy exists between continuing program and service needs of special needs individuals exiting public schools that do not offer vocational education?	3.69	1.03
27.5	(30)	What support models are most efficacious regarding different needs of individuals?	3.69	1.00
29	(14)	What is the current state of the art in vocational assessment practices in secondary vocational education programs?	3.68	1.02
30	(12)	To what extent have community colleges identified and provided viable programs focused on unique needs of students who have been primarily in resource settings in secondary schools and may not have had opportunities to participate in vocational training or work experience programs?	3.67	.95

Table 6. *Varimax-Rotated Factor Loading Matrix for Principal-Components Analysis of Future Research Needs in Vocational Special Needs Education.*

Research Items	Factors[a] 1	2	3	4	5	6	7	8	h^2
28	.751 (.56)[b]	.103 (.01)	.250 (.06)	.017 (.00)	.010 (.00)	.180 (.03)	-.140 (.02)	.143 (.02)	.70
22	.701 (.49)[b]	-.037 (.00)	.167 (.03)	.186 (.04)	.194 (.04)	-.091 (.00)	.036 (.00)	.178 (.03)	.63
23	.684 (.47)[b]	.065 (.00)	-.166 (.03)	.057 (.00)	.101 (.01)	-.016 (.00)	.132 (.02)	.141 (.02)	.55
14	.621 (.39)[b]	.002 (.00)	-.015 (.00)	.216 (.05)	.055 (.00)	.196 (.04)	.029 (.00)	-.280 (.08)	.56
25	.589 (.35)[b]	.434 (.19)	.016 (.00)	-.086 (.01)	.008 (.00)	-.057 (.00)	.271 (.07)	.142 (.02)	.64
19	.508 (.26)[b]	.015 (.00)	.110 (.01)	.346 (.12)	.159 (.03)	.155 (.02)	.262 (.07)	-.249 (.06)	.57
3	.112 (.01)	.757 (.57)[b]	.028 (.00)	.112 (.01)	-.051 (.00)	.136 (.02)	.058 (.00)	.054 (.00)	.61
8	-.017 (.00)	.741 (.55)[b]	.165 (.03)	.204 (.04)	.232 (.05)	-.074 (.00)	.128 (.02)	-.006 (.00)	.69
17	.238 (.06)	.440 (.19)[b]	-.017 (.00)	.147 (.02)	.234 (.06)	.418 (.18)	-.099 (.01)	-.243 (.06)	.58
2	-.107 (.01)	.366 (.13)	-.349 (.12)	.087 (.01)	.335 (.11)	-.058 (.00)	.070 (.01)	.247 (.06)	.35
27	.042 (.00)	.165 (.03)	.739 (.55)[b]	.108 (.01)	.022 (.00)	.164 (.03)	.108 (.01)	.003 (.00)	.63
10	-.185 (.03)	-.113 (.01)	.613 (.38)[b]	.197 (.04)	.228 (.05)	.007 (.00)	.296 (.09)	.130 (.03)	.63
29	.398 (.16)	.044 (.00)	.559 (.31)[b]	.183 (.03)	-.048 (.00)	.335 (.11)	.135 (.02)	.022 (.00)	.63
26	.341 (.12)	.309 (.10)	.516 (.27)[b]	-.063 (.00)	.381 (.15)	.179 (.03)	-.145 (.02)	-.096 (.01)	.70
6	.091 (.00)	.205 (.04)	.010 (.00)	.766 (.59)[b]	.072 (.01)	.069 (.01)	-.037 (.00)	.010 (.00)	.65
21	.336 (.11)	.179 (.03)	.067 (.01)	.571 (.33)[b]	.172 (.03)	.020 (.00)	.011 (.00)	.184 (.03)	.54
7	.043 (.00)	-.040 (.00)	.168 (.03)	.521 (.27)[b]	.345 (.12)	.080 (.01)	.063 (.00)	.196 (.04)	.47
13	.117 (.01)	.187 (.04)	.272 (.07)	.485 (.24)[b]	.103 (.01)	.256 (.07)	-.001 (.00)	-.316 (.10)	.54
24	.162 (.03)	.424 (.18)	.348 (.12)	.433 (.19)[b]	.119 (.01)	.086 (.01)	.125 (.02)	.099 (.01)	.47
20	.138 (.02)	.079 (.01)	.029 (.00)	.113 (.01)	.709 (.50)[b]	-.102 (.01)	-.066 (.00)	-.007 (.00)	.55
11	.110 (.01)	.060 (.00)	.038 (.00)	.133 (.02)	.632 (.40)[b]	.117 (.01)	.172 (.03)	.115 (.01)	.48
18	.082 (.01)	.055 (.00)	.122 (.02)	.180 (.03)	.557 (.31)[b]	.465 (.22)	.167 (.03)	-.005 (.00)	.62
9	.066 (.00)	.335 (.11)	.248 (.06)	.198 (.04)	.379 (.14)	-.308 (.10)	.035 (.00)	.026 (.00)	.45
5	-.055 (.00)	.016 (.00)	.216 (.05)	.085 (.01)	.002 (.00)	.765 (.59)[b]	.128 (.02)	.022 (.00)	.67
30	.304 (.09)	.054 (.00)	.149 (.02)	.132 (.02)	.008 (.00)	.588 (.35)[b]	-.042 (.00)	.254 (.07)	.56
16	.084 (.01)	.072 (.01)	.247 (.06)	-.027 (.00)	.098 (.01)	.032 (.00)	.796 (.63)[b]	.020 (.00)	.72
15	.147 (.02)	.433 (.19)	-.016 (.00)	.063 (.00)	.012 (.00)	.065 (.00)	.513 (.26)[b]	.348 (.12)	.50
4	.420 (.18)	.220 (.05)	.023 (.00)	.073 (.01)	.112 (.01)	.213 (.10)	.461 (.21)[b]	-.208 (.04)	.49
12	.180 (.03)	.040 (.00)	-.015 (.00)	.289 (.08)	.090 (.01)	.096 (.01)	.062 (.00)	.884 (.47)[b]	.60
1	.072 (.01)	.247 (.06)	.268 (.07)	-.276 (.08)	.286 (.08)	.162 (.03)	-.004 (.00)	.465 (.22)[b]	.55
Eigenvalue	7.007	2.148	2.024	1.616	1.446	1.202	1.163	1.110	17.716
Percentage of total variance	23.40	7.20	6.70	5.40	4.80	4.00	3.90	3.70	59.10
Percentage of trace (common variance)	39.55	12.13	11.43	9.12	8.16	6.78	6.56	6.27	100.00

Note. Numbers in parentheses are the squares of each factor loading. Percentages are rounded to nearest .01.

[a]Factor names: 1 = Professional Training & Development; 2 = Quality Measures of Student Outcomes; 3 = Transition/Delivery Systems; 4 = Program Evaluation; 5 = Relevance of Vocational Preparation; 6 = Support Systems/Ancillary Services; 7 = Personal/Sociological Issues; 8 = Policy Issues.

[b]Factor loadings of .40 and greater were considered in naming each factor.

main research themes emerged including special needs teacher training, vocational assessment, and the integration of academics into vocational special needs programs. Factor 1, entitled *Professional Training and Development*, accounted for 23.4% of the total variance in the data.

Quality Measures of Student Outcomes was the name assigned to the second factor. Research efforts in this category focused attention on determining the best methods for measuring success of students involved in vocational special education programs. Specific research items that loaded on this factor examined the impact of vocational special education on the drop-out rate, determined the economic benefits of involvement in special needs programs, and explored how various program components impact on student outcomes. Four of the 30 research items loaded on this factor and accounted for 7.2% of the total variance.

A total of 6.7% of the total variance was attributable to Factor 3 titled *Transition/Delivery Systems*. Major themes in this dimension focused on improving transition services to students with special needs, as well as enhancement of instructional delivery by examining various delivery options. Research topics ranged from finding methods to help "institutionalize" transition programs (especially at the postsecondary level) to the types of long-term follow-up services required in order for students to be successful. An examination of the advantages and disadvantages of classroom versus community-based training was also included.

Five research items loaded on the fourth factor that would determine how to best measure student involvement in vocational special needs programs and also define the notion of quality in special needs programs offered. Entitled *Program Evaluation*, research activities in this group examined the effects of program elements on short- and long-term student success. Follow-up studies were one means used to evaluate the involvement of past program participants. This factor explained 5.4% of the total variance of the data analyzed.

Relevance of Vocational Preparation identified research elements contained in the fifth factor. Accounting for 4.8% of the total variance, Factor 5 research seeks to determine how the relevance and adequacy of vocational special needs programs in preparing students for

employment. The results of empirical investigations such as examining the impact of increased graduation requirements and differences in outcomes for participants and non-participants would help improve programs and better prepare students for the world of work.

The sixth factor is entitled *Support Systems/Ancillary Services.* This dimension examines how change in federal support programs might impact on employment for students from special populations and proposes to identify support models that are most effective for program participants. Factor 6 accounted for 3.9% of the total variance.

A total of 3.7% of the variance can be attributed to Factor 7, entitled *Personal/ Sociological Issues.* This factor investigates both personal and societal concerns as they relate to involvement in vocational special education. Specific research topics include an investigation of the role(s) that families of special needs students should play in the educational and employment process and identification of methods to increase the self-esteem of "at-risk" youth.

Results of research conducted under the major theme for the eighth and final factor fit under the heading *Policy Issues.* Research elements loading on this factor focus attention on the efforts of postsecondary institutions toward providing students with special needs viable programming options and would explore methods to increase the acceptance of a functional curriculum in an "academic" environment. Factor 8 accounted for 3.7% of the variance found in the data set.

Objective 2

The second research objective was established to describe and compare respondents' perspectives on the basis of two selected demographic variables - the type of employment held in vocational special education and the type of community where an individual lived and worked. All 30 research items were analyzed separately rather than using a calculated factor score or collapsed mean score for each of the eight factors identified. This decision was made because of an interest in examining the potential differences held toward individual research statements instead of perceptions held toward research dimensions or categories.

Employment. Responses were examined on the basis of the type of employment held by participants. For the present study, employment was divided into two groups - jobs that offered direct and frequent contact with special populations (e.g., teachers and counselors) and positions that did not provide the same opportunity for this type of involvement with students (*e.g.*, program administrators and university personnel). It was hypothesized that one's perspective toward areas in need of future research might be determined, to some degree, by the degree of contact with students served by vocational special education programs.

A series of *t*-tests were performed to compare responses from the groups toward identified research statements (see Table 6). Results did not reveal a great deal of difference between the perceptions of professionals who had direct contact with special needs students and those with more limited student involvement. The only research item perceived significantly different was Question 4 which addressed the use of applied academics and generalizable skills strategies within special needs programs, $t(228) = 2.75$, $p < .01$. In this case, those with non-direct student contact (*e.g.*, administrators and university personnel) reported a higher need for research than those with direct student contact.

Type of community. In the last several years, a great deal of attention has been placed on the similarities and differences between urban and rural education. Therefore, the location of residence and employment was considered a potentially significant variable in determining one's perceptions toward future research needs in vocational special education. A series of *t*-tests compared responses of professionals in urban and rural work settings to research items.

For the most part, urban- and rural-based professionals did not differ significantly on their perceptions about future research needs, however, significant differences were detected on response to three research items. In each case, urban professionals perceived the statements to present a higher level of need than rural professionals including Question 6 on the impact of special needs programs on occupational success of students, $t(181) = 2.49$, $p < .01$; Question 24 that proposed long-term follow-up studies to compare program participants and non-participants, $t(182) = 2.43$, $p < .01$; and, Question 27 to determine the effects of adult and postsecondary education on transition models, $t(169) = 3.20$, $p < .01$ (see Table 7).

Table 7. *Perceptions of Future Research Needs in Vocational Special Education by Professionals with Direct and Non-Direct Student Contact.*

Item Number	Research Focus	Direct *M*	Direct *SD*	Non-Direct *M*	Non-Direct *SD*	T-Value
1	Functional curriculum.	4.42	.77	4.26	.81	-1.43
2	Impact of societal changes on VE.	4.19	.87	4.25	.92	.44
3	Impact of VE on drop-out rate.	4.21	.88	4.23	.84	.13
4	Generalizable skills.	3.87	.98	4.20	.80	2.75*
5	Federal programs (SSI, SSDI).	3.76	.97	3.85	.85	.71
6	Impact on occupational success.	4.18	.86	4.12	.90	- .49
7	LRE on student achievement.	3.81	.98	3.74	.97	- .47
8	Economic impact of VE.	4.00	1.04	4.06	.88	.42
9	Collaboration (VE & business).	4.31	.86	4.15	.86	-1.36
10	Long range follow-up services.	3.89	.98	3.86	.95	- .22
11	Graduation requirements & VE.	3.82	1.02	3.84	1.11	.14
12	Community college programs.	3.65	.88	3.71	1.02	.47
13	Provision of support service.	4.04	.86	4.00	.88	- .38
14	Current vocational assessment.	3.70	1.06	3.62	.96	- .57
15	Strategies to increase self-esteem.	3.91	1.00	3.65	1.10	-1.84
16	Family role w/ special populations.	3.88	1.02	3.85	.89	- .35
17	Student outcomes.	3.77	.97	3.80	.95	.24
18	Long-range benefits of VSN.	3.73	1.06	3.62	1.00	- .73
19	Most useful assessment procedures.	4.04	.97	4.16	.84	1.01
20	Relevancy of VE to existing jobs.	4.21	1.00	4.12	.82	- .77
21	Program outcome measures.	4.05	.97	4.02	.89	1.29
22	Training needs for professionals.	4.10	.84	4.10	.94	- .02
23	Integration of academics in VE.	4.02	.86	4.23	.93	1.80
24	Follow-up studies.	3.76	1.04	3.76	.99	- .04
25	Methods of VSN teacher training.	3.79	.99	3.88	.91	.68
26	Instruction delivery methods.	3.98	1.07	3.91	.96	- .48
27	Effects of adult ed. on transition.	3.79	.95	3.93	.86	1.08
28	VSN teacher education programs.	4.02	.93	4.72	.96	1.20
29	Establishing transition models.	3.77	1.08	4.01	.93	1.71
30	Best practices, re. support services.	3.69	1.03	3.71	.92	.16

*Significant at the .01 level ($df = 228$).

Objective 3

The third research objective asked special needs professionals to identify additional areas of research in need of attention during the next 10 years. Eighty-nine of the 238 respondents (37.4%) generated a total of 159 usable research problems (see Appendix F for a complete list). Of the total number responding, 54 professionals were from urban settings while 35 lived and

Table 8. *Perceptions of Future Research Needs in Vocational Special Education by Rural and Urban-Based VSN Professionals.*

Item Number	Research Focus	Urban		Rural		T-Value
		M	*SD*	*M*	*SD*	
1	Functional curriculum.	4.38	.81	4.44	.69	- .54
2	Impact of societal changes on VE.	4.28	.84	4.15	.91	.98
3	Impact of VE on drop-out rate.	4.39	.74	4.20	.91	1.57
4	Generalizable skills.	4.19	.89	4.00	.98	.61
5	Federal programs (SSI, SSDI).	3.81	.95	3.73	.85	.55
6	Impact on occupational success.	4.32	.75	4.00	.98	2.49*
7	LRE on student achievement.	3.81	1.00	3.72	.97	.66
8	Economic impact of VE.	4.05	.86	4.13	.99	- .54
9	Collaboration (VE & business).	4.32	.75	4.26	.94	.53
10	Long range follow-up services.	3.93	.95	3.92	.86	.06
11	Graduation requirements & VE.	3.77	1.08	3.86	1.08	- .56
12	Community college programs.	3.78	.85	3.68	1.00	.77
13	Provision of support service.	4.08	.82	4.01	.82	.53
14	Current vocational assessment.	3.81	.94	3.59	1.10	1.43
15	Strategies to increase self-esteem.	3.94	.94	3.80	1.08	.93
16	Family role w/ special populations.	3.93	.84	3.84	1.00	.63
17	Student outcomes.	3.96	.93	3.65	1.02	2.12
18	Long-range benefits of VSN.	3.80	.97	3.61	1.06	1.18
19	Most useful assessment procedures.	4.23	.88	4.04	.95	1.33
20	Relevancy of VE to existing jobs.	4.28	.81	4.20	1.03	.87
21	Program outcome measures.	4.33	.77	4.10	1.02	1.71
22	Training needs for professionals.	4.24	.86	4.07	.86	1.33
23	Integration of academics in VE.	4.20	.85	4.10	.98	.79
24	Follow-up studies.	4.00	.95	3.65	1.00	2.43**
25	Methods of VSN teacher training.	3.97	.92	3.83	.99	.97
26	Instruction delivery methods.	3.98	1.00	4.03	.98	- .38
27	Effects of adult ed. on transition.	4.12	.82	3.70	.93	3.20***
28	VSN teacher education programs.	4.23	.87	4.08	.99	1.06
29	Establishing transition models.	3.91	1.03	3.93	.96	- .12
30	Best practices. re. support services.	3.84	.97	3.60	.97	1.66

*Significant at the .01 level (df = 181).
**Significant at the .01 level (df = 182).
***Significant at the .01 level (df = 169).

worked in rural areas. A fairly equal number of respondents represented direct service providers (n = 48) and professionals not having direct student/client contact (n = 41).

Research items were categorized according to the major themes identified by the factor analysis. Through the qualitative process of coding, several sub-categories were added to

provide organization and clarity. As a result of this process, a total of 17 research divisions (categories) were identified. *Professional Training and Development* (Factor 1) contained 28 research problems divided into several sub-sections including issues related to preservice and inservice training for *VSN* professionals and concerns on staffing of special needs programs, use of vocational assessment, and enhancement of instruction. Research problems posed in Factor 2-*Quality Measures of Student Outcomes* ($n = 4$) dealt with defining student success and obtaining data on the quality of life achieved by involvement in vocational special education. The third factor, *Transition/Delivery Systems* ($n = 9$), contained elements examining the effectiveness of a variety of delivery systems, particularly transition delivery models. The *Program Evaluation* research dimension (Factor 4) contained 27 research statements. Topics in this category ranged from the effects of a functional curriculum on increased employment opportunities to an investigation of the differences in access to vocational education for special needs learners in rural and urban areas.

Collectively, the fifth factor (*Relevance of Vocational Preparation*) contained 29 research questions. Eight respondents suggested future research needs focusing on the general relevancy of vocational programs (*e.g.*, What are the most important entry-level job skills? Identify the types of employment most appropriate for training students with special needs. Do components of vocational curricula need to be modified to address concerns of business and industry?). The remaining 21 items dealt with several aspects of the collaboration and articulation process involved in vocational special needs programs. Specific sub-categories were developed to examine the collaboration and articulation process between secondary-postsecondary education and adult service providers ($n = 7$), education and business/industry ($n = 9$), and issues related to interagency cooperation ($n = 5$).

Three statements comprised Factor 6-*Support Systems/Ancillary Services*. Suggested research would investigate the use and impact of various support services on the success of special populations. The research dimension -*Personal/Sociological Issues*- contained 26 items divided into student-focused issues and societal-based concerns. Personal issues research ($n = 15$) examined motivation to work and the "work ethic", self-advocacy skills

training, and several issues related to enhancing student self-esteem. Sociological issues research activities (n = 11) tie general economic and employment trends to future employment opportunities and examine the changing nature of the workplace and the impact these changes have on special populations. The final factor (*Policy Issues*) was divided into three sub-categories of policy issues including curriculum and programming (n = 15), legislation and political mandates (n = 6), and funding (n = 12).

Response patterns were examined based on the type of employment held and community setting represented to determine if these factors had an impact on one's perspective toward future research needs in vocational special education. For the most part, comparable levels of interest were observed for each research dimension. There were, however, several exceptions worth noting. For instance, urban-based professionals without direct student contact (*e.g.*, program administrators and university personnel) generated the highest number of program evaluation items. When all urban-based respondents are considered, program evaluation issues were identified three times that of their rural-based counterparts. Urban-based professionals generated a greater number of research items on collaboration and articulation between education and business/industry.

Each of the three sub-categories for research on *Policy Issues* (Factor 8) revealed differences in perspectives. Research on curriculum and programming policy contained twice as many issues from professionals without direct student contact than from direct service providers. A higher concern for research on legislation was mentioned by urban-based professionals. Empirical investigation of issues related to the funding of special needs programs/services included more responses from direct service providers than from those in administrative or teacher-educator roles.

CONCLUSIONS AND DISCUSSION

This investigation sought to identify, categorize, and prioritize areas of research which professionals involved in vocational special needs education must actively address during the next ten years. The general focus of research statements rated as presenting the highest need

for additional study in the first phase of the study centered on two critical issues - transition and "at-risk" students (*i.e.*, drop-outs). Research on these two concerns included a search for effective teaching methods, the delineation of school and service agency responsibilities for students transitioning from school to work, and measurement of the impact that current and projected changes in society will have on students with special needs.

The second phase of this investigation further refined and clarified research needs for the field. A factor analysis revealed that eight underlying dimensions (categories) could be used to explain the identified research statements. These eight factors were further refined (i.e., addition of sub-categories) during a qualitative analysis of additional research statements generated by study participants. The resulting organization of eight main categories with respective sub-divisions is somewhat different than the framework generated during the first phase, however, all original elements are represented in the revised research framework.

Results suggest that university-affiliated vocational special needs personnel and special needs practitioners tend to hold similar views in terms of how they perceive future research needs for the field. In addition, the type of position held and location of work environment did not make a significant difference in how special needs personnel viewed future research needs. This may indicate that philosophical differences between individuals in these various situations are not as extreme as is sometimes portrayed. There were several situations, however, in which significant differences in perspective did exist. These cases tend to confirm a subtle, yet persistent, difference in how professionals view access to programs, the availability of resources, and the quantity and quality of opportunities after graduation.

Professionals involved in vocational special needs education must consider placing greater emphasis and support on research that investigates the major issues and themes identified by this study. Activity may take a variety of forms including statements issued by national organizations that affirm these priorities, financial resource designations (*e.g.*, federal and state grant funding priorities), individual modification of professionals' research agendas, and research symposia designed to highlight innovative and "state-of-the-art" research activities.

Practitioners must also adopt a more proactive and vocal role in future research and development activities. This may mean writing descriptions of successful programs for submission to an appropriate journal or presentation of successful programs at regional or national conferences. Practitioners must also request that postsecondary teacher educators provide relevant, useful data on these aspects of vocational special needs education.

As investigation on priority research topics begins to take shape, a secondary focus can be placed on those research categories representing medium levels of need. Activities similar to those described for the high priority research categories would be beneficial. Even though a perception of low need exists in some areas, researchers and practitioners should continue their investigations within these areas especially when local or regional area needs, personal or professional interest, or changing perceptions within the field indicate a higher need than that presented in this study.

RECOMMENDATIONS

Professionals might use these results as a means to identify current and future research efforts in vocational special needs education. Hence, research activities could be catalogued and placed into an overall, field-based research agenda. This may promote a deeper appreciation for the unique and significant contributions that individual research efforts bring to the entire field. Similarly, practitioners can utilize a research agenda in vocational special needs as one method to enhance quality and success of current educational practice.

A concerted effort must be made to unify the research activities and focus of vocational special needs education during the next decade. A continued effort at establishing a research agenda for the field is highly recommended. Individual research agendas in vocational special needs must be developed and articulated to others. In addition, descriptions of how individual research agendas connect with and contribute to the overall research agenda for vocational special needs education must be offered. Researchers must network with colleagues in related fields and disciplines (*e.g.*, special education, educational psychology). These networking efforts must be identified and integrated into a vocational special education research agenda.

Further research and related activities are needed to eventually define a cohesive vocational special needs research agenda. Periodic reviews must be conducted to determine applicability and modify /update any existing research agenda in vocational special needs education. Additional research is also needed to further clarify and define each of the major research categories identified by this investigation.

Results may contribute to the development of a national agenda for vocational special needs research, however, caution must be taken in the interpretation and use of results. Ertel and Neveu (1987) advised that "any attempt to establish a cohesive framework or conceptual approach to vocational education research planning must be considered as both preliminary and tentative" (p. 12). Nevertheless, vocational special needs personnel (*e.g.*, teacher-educators, secondary/postsecondary teachers, practitioners, administrators, and state/federal directors of special needs programming) can begin to use this information when developing or modifying individual research agendas, as well as for identifying and organizing future state- and nation-wide research emphases for vocational special needs education.

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APPENDIX A

Vocational Special Needs Personnel Participating in Delphi Phase

Vocational Special Needs Personnel Participating in Delphi Phase

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APPENDIX B

Round 1 Questionnaire for Delphi Phase of Investigation

RESEARCH PRIORITIES IN VOCATIONAL SPECIAL NEEDS: A DELPHI APPROACH

Round 1 Questionnaire

DIRECTIONS: The purpose of Round One is to identify specific research needs and direction which you feel should be pursued and/or considered for vocational special needs education over the next ten years. The following terms are defined for purposes of this study:

Research: Basic and/or applied research efforts using quantitative and/or qualitative methods. A common goal of vocational special needs research is the improvement of vocational programs for special needs populations (Phelps, 1980). Basic research tests theory and studies relations among phenomena in order to understand the phenomena, with little or no thought of applications of the research results to practical problems. Applied research is directed toward the solution of specified practical problems in delineated areas and from which improvement of some process or activity, or achievement of practical goals, is expected (Kerlinger, 1979).

Vocational Special Needs: Vocational education for disadvantaged or handicapped persons supported with funds under the Vocational Education Act of 1976 (Public Law 94-482) to include special education programs and services designed to enable disadvantaged or handicapped persons to achieve vocational education objectives that would otherwise be beyond their reach as a result of their condition. These programs and services may take the form of modification of regular programs or be vocational special needs programs designed only for disadvantaged or handicapped persons. Such education includes working with those individuals in need of vocational training who cannot succeed in a regular vocational program due to a handicapping condition or the effects of disadvantagement (Meers, 1987, pp. 385-386).

Identification No. _____

RESEARCH PRIORITIES IN VOCATIONAL SPECIAL NEEDS: A DELPHI APPROACH

Round 1 Questionnaire

DIRECTIONS: As an expert in the field of vocational special needs, you are asked to generate several responses to the following question:

What should the research needs (priorities) for vocational special needs education be for the next ten years ?

PLEASE LIST AT LEAST FIVE SPECIFIC RESEARCH QUESTIONS OR PROBLEMS BELOW. YOU MAY LIST MORE THAN FIVE, IF YOU WISH. NO PARTICULAR ORDER IS REQUIRED.

1.

2.

3.

4.

5.

Please feel free to use the back of this page for additional space, if needed.

Detach Your Completed Response Sheet and Mail in Enclosed Self-Addressed, Stamped Envelope.

APPENDIX C

Round 2 Questionnaire for Delphi Phase of Investigation

RESEARCH PRIORITIES IN VOCATIONAL SPECIAL NEEDS: A DELPHI APPROACH

Round 2 Questionnaire: Part A

DIRECTIONS: The research statements listed on the following pages represent potential research priorities for vocational special needs education. The purpose of this questionnaire is to determine the degree of need each research question presents to future research efforts of vocational special needs personnel. Review each statement and then rate the level of need you feel it presents to the field of vocational special needs education over the next ten years. Rate each item using a 5-point Likert scale:

Scale: 1 = No Need; 2 = Low Need; 3 = Medium Need; 4 = High Need; 5 = Very High Need

PLEASE BE SELECTIVE IN REVIEWING THE RESEARCH STATEMENTS LISTED. EVEN THOUGH ALL RESEARCH AREAS MAY BE IMPORTANT, TRY TO DISTINGUISH HIGHER AND LOWER PRIORITY AREAS. YOU MAY ADD WRITTEN COMMENTS TO ANY RATING YOU MAKE, IF YOU WISH. SEVERAL EXAMPLES ARE PROVIDED BELOW:

Research Priority Item	Your Response(s) Place (X) In Appropriate Section
	Least Need ... Highest Need
1. To determine predominant cognitive learning styles which correspond with various handicapping and disadvanteged conditions.	/__/_X_/___/___/___/ 1 2 3 4 5
2. To what extent are special needs students provided equal access to all vocational education programs?	/___/___/___/___/_X_/ 1 2 3 4 5
3. What is the correlation between involvement of students with special needs in vocational education and degree of success in maintaining employment?	/___/___/_X_/___/___/ 1 2 3 4 5

Please complete the questionnaire and return to me within the next seven days.
Thank you for your continued involvement in this process.

Return Your Completed Questionnaire in the Enclosed Self-Addressed, Stamped Envelope.

Identification No. _____

RESEARCH PRIORITIES IN VOCATIONAL SPECIAL NEEDS: A DELPHI APPROACH

Round 2 Questionnaire: Part A

Research Priority Item	Your Response(s)
	Place (X) In Appropriate Section
	Least Need 1 2 3 4 5 Highest Need
1. Compare and contrast community-based work experience training and classroom-based training with respect to the acquisition of skills and permanent employment?	/__/__/__/__/__/ 1 2 3 4 5
2. What support models are most efficacious regarding different needs of individuals?	/__/__/__/__/__/ 1 2 3 4 5
3. Conduct a meta-analysis of the writings and research conducted in the field of vocational special needs from 1975 - present and/or contrasting studies up to 1975.	/__/__/__/__/__/ 1 2 3 4 5
4. What are the long-term effects of participation in pre-vocational education courses (i.e., practical arts) on special needs learners?	/__/__/__/__/__/ 1 2 3 4 5
5. What is the role of vocational education in supported employment and for persons with severe disabilities?	/__/__/__/__/__/ 1 2 3 4 5
6. How can job placement for special needs students best occur with other agencies?	/__/__/__/__/__/ 1 2 3 4 5
7. Describe and compare methods of teacher effectiveness training for educators of 'at-risk' students.	/__/__/__/__/__/ 1 2 3 4 5
8. What vocational assessment models are most useful?	/__/__/__/__/__/ 1 2 3 4 5
9. What is the degree of applicability of existing theories of learning style to special needs persons.	/__/__/__/__/__/ 1 2 3 4 5
10. Is vocational education providing special needs students with training in occupations which correlate with existing job offerings?	/__/__/__/__/__/ 1 2 3 4 5
11. Identification of upper and lower functional parameters which can be used to define (identify) special needs students.	/__/__/__/__/__/ 1 2 3 4 5
12. What are effective inter-agency collaboration models?	/__/__/__/__/__/ 1 2 3 4 5
13. Is federal support, in terms of federal legislation and fiscal resources, necessary for improved vocational education programming and services to students with special needs?	/__/__/__/__/__/ 1 2 3 4 5
14. What is the effect of least restrictive environment placements on the achievement of special needs students?	/__/__/__/__/__/ 1 2 3 4 5
15. Determine the state of the art in vocational special needs by in-depth naturalistic inquiry of parents, consumers, employers, educators, service providers, and advocates.	/__/__/__/__/__/ 1 2 3 4 5

Research Priority Item	Your Response(s)
	Place (X) In Appropriate Section
	Least Need / Highest Need
16. Follow-up study of special needs graduates and non-graduates of vocational training programs to include (1) employment status, (2) satisfaction with life (i.e,. self-esteem, martial status, income level, etc.).	/__/__/__/__/__/ 1 2 3 4 5
17. A comprehensive study of all the various adult service providers/ agencies resulting in the production of a model that would make services more accessible, efficient, and worthwhile.	/__/__/__/__/__/ 1 2 3 4 5
18. Compare and contrast strategies to increase self-esteem in 'at-risk' students.	/__/__/__/__/__/ 1 2 3 4 5
19. Does participation in vocational education lead to higher grades in in academic achievement versus a lack of participation?	/__/__/__/__/__/ 1 2 3 4 5
20. Describe the demographics of identified students with handicaps currently enrolled in vocational education programs (e.g., how many VSN-handicapped students are enrolled, in what kinds of programs, and types of disabilities served).	/__/__/__/__/__/ 1 2 3 4 5
21. What are the unique requirements and competencies of personnel who work with special needs students in integrated vocational settings? in self-contained settings?	/__/__/__/__/__/ 1 2 3 4 5
22. With a meta-analysis or other statistical technique, determine the primary and secondary causes of job termination (e.g., low production).	/__/__/__/__/__/ 1 2 3 4 5
23. Determine the effects of providing services such as child care, transportation, etc. upon training and subsequent successful employment.	/__/__/__/__/__/ 1 2 3 4 5
24. The current status of adaptive vocational education programming (e.g., how many school districts offer adaptive vocational education, what is the nature of such programming, what placement criteria are needed?).	/__/__/__/__/__/ 1 2 3 4 5
25. Compare and contrast instructional strategies for vocational instructors/teacher preparation.	/__/__/__/__/__/ 1 2 3 4 5
26. To what extent should teacher education programs in vocational special needs be separate from or integrated into regular vocational education programs?	/__/__/__/__/__/ 1 2 3 4 5
27. What are reasonable and appropriate outcome measures for determining the effects of local vocational special needs programs?	/__/__/__/__/__/ 1 2 3 4 5
28. What are the components of effective collaboration between vocational classroom teachers and industry to better prepare 'at-risk' students for employment?	/__/__/__/__/__/ 1 2 3 4 5

Research Priority Item	Your Response(s)
	Place (X) In Appropriate Section
	Least Need 1 2 3 4 5 Highest Need
29. Does vocational education significantly impact on the drop-out rate of 'at-risk' youth?	/___/___/___/___/___/ 1 2 3 4 5
30. What are the effects of postsecondary continuing and adult education on transition models of special populations?	/___/___/___/___/___/ 1 2 3 4 5
31. What are effective funding and staffing policies and procedures which facilitate cooperative delivery of vocational special needs services across the fields of vocational and special education.	/___/___/___/___/___/ 1 2 3 4 5
32. In what ways do various program components (e.g., assessment) interact with student outcomes (e.g., employment, earnings, further education)?	/___/___/___/___/___/ 1 2 3 4 5
33. What is the degree of applicability of existing theories of occupational choice to special needs persons.	/___/___/___/___/___/ 1 2 3 4 5
34. The current state of the art in vocational assessment practices in secondary vocational education programs.	/___/___/___/___/___/ 1 2 3 4 5
35. What training is required for vocational education and adaptive vocational education teachers/instructors related to students with special needs?	/___/___/___/___/___/ 1 2 3 4 5
36. What is (should be) the relationship between vocational special needs programming and the transition planning process for youth with special needs?	/___/___/___/___/___/ 1 2 3 4 5
37. Research which addresses the socio-economic needs of the homeless in America and its relationship to VSN programs.	/___/___/___/___/___/ 1 2 3 4 5
38. Coordination of community-based transitional services for special populations.	/___/___/___/___/___/ 1 2 3 4 5
39. Which types of curriculum- and performance-based assessment procedures provide the most useful information to those making decisions about the placement and participation of youth with special needs in vocational programs.	/___/___/___/___/___/ 1 2 3 4 5
40. What is the adequacy, quality, and effectiveness of vocational programs on occupational success of special participants?	/___/___/___/___/___/ 1 2 3 4 5
41. Research examining the use of applied basic academic skills and generalizable skill strategies in programs for special populations.	/___/___/___/___/___/ 1 2 3 4 5
42. Develop and compare critical thinking and problem solving strategies for special populations.	/___/___/___/___/___/ 1 2 3 4 5
43. To what extent will we see individualized planning mandates expand, stabilize, or diminish across all special needs groups?	/___/___/___/___/___/ 1 2 3 4 5

Research Priority Item	Your Response(s)
	Place (X) In Appropriate Section
	Least Need 1 2 3 4 5 Highest Need
44. What is the economic impact of vocational education on 'at-risk' youth?	/__/__/__/__/__/ 1 2 3 4 5
45. What are the goals, purposes, and learner outcomes for vocational special needs education?	/__/__/__/__/__/ 1 2 3 4 5
46. How will the interaction of changing demographics (i.e., aging society, increased number of minorities) and changing workplace requirements (i.e., increasing technologies, emphasis on adaptability and problem-solving skills) in the 1990s affect vocational curricula and vocational outcomes of special needs students?	/__/__/__/__/__/ 1 2 3 4 5
47. What is the effect of the IEP process on access and equity for special needs learners?	/__/__/__/__/__/ 1 2 3 4 5
48. Compare and contrast vocational training for special needs populations in secondary and postsecondary settings.	/__/__/__/__/__/ 1 2 3 4 5
49. Articulation between secondary and postsecondary institutions for special populations (e.g., information, services, application procedures, testing).	/__/__/__/__/__/ 1 2 3 4 5
50. To what extent are vocational special needs specialists professionally integrated in professional organizations (e.g., AVA)?	/__/__/__/__/__/ 1 2 3 4 5
51. To what extent can VSN programs concurrently serve the purposes of quality and equity?	/__/__/__/__/__/ 1 2 3 4 5
52. Describe the demographics of students with handicaps who are <u>not</u> enrolled in vocational education but <u>would like</u> to be (e.g., how many, what are their disabilities, what are the reasons for them not being in vocational education courses?).	/__/__/__/__/__/ 1 2 3 4 5
53. What is the impact of increased graduation requirements on the vocational preparation of special needs individuals?	/__/__/__/__/__/ 1 2 3 4 5
54. Determine the levels and types of jobs for which vocational training must be targeted and determine which strategies are most effective in the schools.	/__/__/__/__/__/ 1 2 3 4 5
55. Research to examine the fiscal efficacy of programs (if any) for vocational special needs students.	/__/__/__/__/__/ 1 2 3 4 5
56. How can vocational educators integrate positive role models in special needs instruction and what are the effects of doing so?	/__/__/__/__/__/ 1 2 3 4 5
57. What types of cognitive differences exist (if any) between special needs students and non-special needs students.	/__/__/__/__/__/ 1 2 3 4 5
58. How can regular vocational education instructors best be prepared to accommodate students with increasingly severe special needs?	/__/__/__/__/__/ 1 2 3 4 5

Research Priority Item	Your Response(s)
	Place (X) In Appropriate Section
	Least Need 1 2 3 4 5 Highest Need
59. What are the long-term effects (if any) which special needs students have after receiving support services while enrolled in vocational education? i.e., longer employment records, income, better self-esteem, etc.	/__/__/__/__/__/ 1 2 3 4 5
60. What discrepancy exists between the continuing program and service needs of special needs individuals exiting public schools and the capacity of adult service providers to meet those needs?	/__/__/__/__/__/ 1 2 3 4 5
61. What alternatives are available to provide vocational special needs education to special needs students in schools that do not offer vocational education?	/__/__/__/__/__/ 1 2 3 4 5
62. How will the changing nature of the workforce affect training and employment opportunities for special needs learners?	/__/__/__/__/__/ 1 2 3 4 5
63. What incentives are needed to keep vocational special needs programs alive and viable? What does it take to keep districts and states in the vocational special needs business? i.e., federal legislation, set-asides, etc.	/__/__/__/__/__/ 1 2 3 4 5
64. What are the long-range (5-10 years) follow-up services that should be provided to secondary special needs graduates and program leavers?	/__/__/__/__/__/ 1 2 3 4 5
65. What are the most effective models of preparation for vocational special needs personnel?	/__/__/__/__/__/ 1 2 3 4 5
66. How do intrinsic and extrinsic motivation-related factors affect learning and teaching?	/__/__/__/__/__/ 1 2 3 4 5
67. How can we identify special needs learners earlier in their educational career?	/__/__/__/__/__/ 1 2 3 4 5
68. What intervention and collaborative strategies are most effective for facilitating interagency cooperation and how can these be taught to transition specialists?	/__/__/__/__/__/ 1 2 3 4 5
69. What is the long-term effect of supported work programs on the employment of persons with disabilities?	/__/__/__/__/__/ 1 2 3 4 5
70. What training needs are still evident in vocational special needs today for the professionals who administer, teach, and provide services for vocational special needs programs?	/__/__/__/__/__/ 1 2 3 4 5
71. What methodologies are most effective for integrating the instruction of related academics with core vocational programming areas?	/__/__/__/__/__/ 1 2 3 4 5
72. What strategies best enable teachers to effectively follow-up special needs clients and determine program impact on those clients?	/__/__/__/__/__/ 1 2 3 4 5
73. How can we make a more functional curriculum as important as academics in a time in which school reform focuses only on academics?	/__/__/__/__/__/ 1 2 3 4 5

Research Priority Item	Your Response(s)
	Place (X) In Appropriate Section
	Least Need 1 2 3 4 5 Highest Need
74. How can regular vocational education curriculum best be designed to accommodate students with increasingly severe special needs problems?	/__/__/__/__/__/ 1 2 3 4 5
75. Does vocational education afford 'at-risk' youth an opportunity to leave the environment of the inner-city?	/__/__/__/__/__/ 1 2 3 4 5
76. How can the transition process be standardized for all special needs students?	/__/__/__/__/__/ 1 2 3 4 5
77. Given the changes in the workforce and the growing diversity in America's population (youth and adults), what should be done to accommodate these trends in VSN programs and services?	/__/__/__/__/__/ 1 2 3 4 5
78. Compare and contrast current service delivery models with an individual education contractor model of providing services to students with special needs.	/__/__/__/__/__/ 1 2 3 4 5
79. Are there most efficient and less time-consuming planning processes for special needs students than current IEP processes?	/__/__/__/__/__/ 1 2 3 4 5
80. How can vocational education insure that vocational courses count toward graduation requirements for special needs students who cannot pass more English, science and math?	/__/__/__/__/__/ 1 2 3 4 5
81. To what extent have community colleges identified and provided viable programs focused on the unique needs of students who have been primarily in resource settings in secondary schools and may not have had opportunities to participate in vocational training or work experience programs?	/__/__/__/__/__/ 1 2 3 4 5
82. Procedures or methodology to assist special needs personnel to work cooperatively with vocational education programs?	/__/__/__/__/__/ 1 2 3 4 5
83. Which teacher education program components/strategies (if any) are effective at enabling teachers to successfully accommodate a diverse array of special needs learners in vocational education programs (and expand the diversity of special needs learners enrolled in vocational education programs?	/__/__/__/__/__/ 1 2 3 4 5
84. How can the predicted labor shortages of the 1990s be targeted on behalf of special needs students?	/__/__/__/__/__/ 1 2 3 4 5
85. How do we measure the results of special needs programs? What should be considered important in conducting program reviews and/or evaluations (i.e., skills attained, job placement, etc.)?	/__/__/__/__/__/ 1 2 3 4 5
86. Examination of how special needs students can be motivated, as a subset specific instructional strategies.	/__/__/__/__/__/ 1 2 3 4 5
87. How do economic conditions impact the nature and degree of employment training options for special needs individuals?	/__/__/__/__/__/ 1 2 3 4 5

Research Priority Item	Your Response(s)
	Place (X) In Appropriate Section
	Least Need 1 2 3 4 5 Highest Need
88. What processes, collaborative arrangements, and financial considerations need to be addressed when attempting to institutionalize model transition programs, especially at the postsecondary level where ownership and responsibility are in question?	/___/___/___/___/___/ 1 2 3 4 5
89. What will be (should be) the role of the family in serving special needs students in the next decade?	/___/___/___/___/___ 1 2 3 4 5
90. How can access to, and equity within, regular vocational education programs by special needs students be monitored across the country in ways that are (a) reasonable in their reporting burdens, and (b) aggregatable across locales, regions, and states?	/___/___/___/___/___/ 1 2 3 4 5
91. Examine possible changes in federal support programs (e.g., SSI, SSDI) to special needs individuals. Would changes provide greater employment opportunities for students with special needs?	/___/___/___/___/___/ 1 2 3 4 5

RESEARCH PRIORITIES IN VOCATIONAL SPECIAL NEEDS: A DELPHI APPROACH

Round 2 Questionnaire: Part B

DIRECTIONS: Review the major research categories which are listed below. Prioritize (rank order) the major research categories as they relate to a future research agenda vocational special needs education. As you rank them, answer the following question: **Which category of research should be addressed before all others?** *The most important research category would be ranked number 1, while the least important would be ranked number 7.*

Major Research Category	Your Rank
Collaboration and Articulation Research	____
Curriculum, Programming, and Delivery Systems Research	____
Instruction/Instructional Strategies Research	____
Policy Issues and Related Research	____
Professional Training and Development Research	____
Program Evaluation Research	____
Student-Related Research	____
List Other Research Categories, If Warranted	
_____	____
_____	____
_____	____

APPENDIX D

Round 3 Questionnaire for Delphi Phase of Investigation

RESEARCH PRIORITIES IN VOCATIONAL SPECIAL NEEDS: A DELPHI APPROACH

Round 3 Questionnaire: Part A

DIRECTIONS: This is the third and final round of a process to determine future research priorities for vocational special needs education. Round 3 requires you to review each Round 2 responses and contrast it using group consensus data. The following information is provided for each item: (a) interquartile range (middle 50% of all scores), (b) median, and (c) mean. Ratings you originally made for Round 2 items are identified with a red dot ( ). After reviewing the information provided, please mark your final choice for each item. You may keep your original response or change it. If your final response in this round falls outside of the interquartile range, please include a brief written note justifying your rating. Several example have been provided below.

Scale: 1 = Least Need; 2 = Low Need; 3 = Medium Need; 4 = High Need; 5 = Highest Need

PLEASE BE SELECTIVE IN REVIEWING THE RESEARCH STATEMENTS LISTED. EVEN THOUGH ALL RESEARCH AREAS MAY BE IMPORTANT, TRY TO DISTINGUISH HIGHER AND LOWER PRIORITY AREAS. YOU MAY ADD WRITTEN COMMENTS TO ANY RATING YOU MAKE, IF YOU WISH. SEVERAL EXAMPLES ARE PROVIDED BELOW:

Research Priority Item	Group Responses (Consensus) from Round 2			Your Response(s)
	Q	Mdn	Mean	Place (X) In Appropriate Section
				Least Need 1 2 3 4 5 Highest Need
1. Determine predominant cognitive learning styles which correspond with various handicapping and disadvantaged conditions.	3-4	3	3.75	/___/___/_X_/___/___/ 1 2 3 4 5
2. To what extent are special needs students provided provided equal access to all vocational education programs?	2-3	2	2.31	/___/_X_/___/___/___/ 1 2 3 4 5
3. What is the correlation between involvement of students with special needs in vocational education and degree of success in maintaining employment?	2-3	3	2.90	/___/___/_X_/___/___/ 1 2 3 4 5

Please complete the questionnaire and return to me within the next seven days.
Thank you for your participation in this process.

Return Your Completed Questionnaire in the Enclosed Self-Addressed, Stamped Envelope.

Identification No. _____

RESEARCH PRIORITIES IN VOCATIONAL SPECIAL NEEDS: A DELPHI APPROACH
Round 3 Questionnaire: Part A

Research Priority Item	Group Responses (Consensus) from Round 2			Your Response(s)
	Q	Mdn	Mean	Place (X) In Appropriate Section
				Least Need ... Highest Need
1. Compare and contrast community-based work experience training and classroom-based training with respect to the acquisition of skills and permanent employment.	3·4	4	3.42	/__/__/__/__/__/ 1 2 3 4 5
2. What support models are most efficacious regarding different needs of individuals?	3·4	4	3.53	/__/__/__/__/__/ 1 2 3 4 5
3. Conduct a meta-analysis of the writings and research conducted in the field of vocational special needs from 1975 - present and/or contrasting studies up to 1975.	1·4	2	2.42	/__/__/__/__/__/ 1 2 3 4 5
4. What are the long-term effects of participation in pre-vocational education courses (i.e., practical arts) on special needs learners?	2·3	2	2.63	/__/__/__/__/__/ 1 2 3 4 5
5. What is the role of vocational education in supported employment and for persons with special needs?	2·4	3	3.11	/__/__/__/__/__/ 1 2 3 4 5
6. How can job placement for special needs students best occur with other agencies?	2·4	3	2.95	/__/__/__/__/__/ 1 2 3 4 5
7. Describe and compare methods of teacher effectiveness training for educators of 'at-risk' students.	3·4	4	3.58	/__/__/__/__/__/ 1 2 3 4 5
8. What vocational assessment models are most useful?	3·5	4	3.89	/__/__/__/__/__/ 1 2 3 4 5
9. What is the degree of applicability of existing theories of learning styles to special needs persons?	2·3	3	2.95	/__/__/__/__/__/ 1 2 3 4 5

Research Priority Item	Group Responses (Consensus) from Round 2			Your Response(s)
	Q	Mdn	Mean	Place (X) In Appropriate Section
				Least Need ... Highest Need
10. Is vocational education providing special needs students with training in occupations which correlate with existing job offerings?	2-4	4	3.37	/__/__/__/__/__/ 1 2 3 4 5 ... ...
11. Identification of upper and lower functional parameters which can be used to define (identify) special needs students.	1-3	2	2.26	/__/__/__/__/__/ 1 2 3 4 5 ... ...
12. What are effective inter-agency collaboration models?	2-4	4	3.42	/__/__/__/__/__/ 1 2 3 4 5 ... ...
13. Is federal support, in terms of federal legislation and fiscal resources, necessary for improved vocational education programming and services to students with special needs?	2-4	3	2.83	/__/__/__/__/__/ 1 2 3 4 5 ... ...
14. What is the effect of least restrictive environment placements on the achievement of special needs students?	2-4	4	3.32	/__/__/__/__/__/ 1 2 3 4 5 ... ...
15. Determine the state of the art in vocational special needs by in-depth naturalistic inquiry of parents, consumers, employers, educators, service providers, and advocates.	2-4	3	3.00	/__/__/__/__/__/ 1 2 3 4 5 ... ...
16. Follow-up study of special needs graduates and non-graduates of vocational training programs to include (1) employment status, (2) satisfaction with life (i.e., self-esteem, marital status, income levels, etc.).	2-4	4	3.26	/__/__/__/__/__/ 1 2 3 4 5 ... ...
17. A comprehensive study of all the various adult service providers/agencies resulting in the production of a model that would make services more accessible, efficient, and worthwhile.	2-4	3	2.95	/__/__/__/__/__/ 1 2 3 4 5 ... ...
18. Compare and contrast strategies to increase self-esteem in 'at-risk' students.	3-4	4	3.37	/__/__/__/__/__/ 1 2 3 4 5 ... ...

Research Priority Item	Group Responses (Consensus) from Round 2			Your Response(s)
	Q	Mdn	Mean	Place (X) In Appropriate Section
				Least Need ... Highest Need
19. Does participation in vocational education lead to a better employment history and/or grades in academic achievement versus a lack of participation?	1-3	2	2.56	/__/__/__/__/__/ 1 2 3 4 5
20. Describe the demographics of identified students with handicaps currently enrolled in vocational education programs (e.g., how many VSN-handicapped students are enrolled, in what kinds of programs, and types of disabilities served).	2-4	3	2.90	/__/__/__/__/__/ 1 2 3 4 5
21. What are the unique requirements and competencies of personnel who work with special needs students in integrated vocational settings? In self-contained settings?	3-4	3	3.37	/__/__/__/__/__/ 1 2 3 4 5
22. With a meta-analysis or other statistical technique, determine the primary and secondary causes of job termination (e.g., low production).	1-4	3	2.68	/__/__/__/__/__/ 1 2 3 4 5
23. Determine the effects of providing services such as child care, transportation, etc. upon training and subsequent successful employment.	2-4	3	3.11	/__/__/__/__/__/ 1 2 3 4 5
24. The current status of adaptive vocational education programming (e.g., how many school districts offer adaptive vocational education, what is the nature of such programming, what placement criteria are needed?).	2-3	3	2.79	/__/__/__/__/__/ 1 2 3 4 5
25. Compare and contrast instructional strategies for vocational instructors/teacher preparation.	2-4	3	2.90	/__/__/__/__/__/ 1 2 3 4 5
26. To what extent should teacher education programs in vocational special needs be separate from or integrated into regular education programs?	2-5	2	3.11	/__/__/__/__/__/ 1 2 3 4 5
27. What are reasonable and appropriate outcome measures for determining the success of local vocational special needs programs?	3-5	4	4.05	/__/__/__/__/__/ 1 2 3 4 5

Research Priority Item	Group Responses (Consensus) from Round 2			Your Response(s)
	Q	Mdn	Mean	Place (X) In Appropriate Section
				Least Need 1 2 3 4 5 Highest Need
28. What are the components of effective collaboration between vocational classroom teachers and industry to better prepare 'at-risk' students for employment?	3-4	4	3.58	/__/__/__/__/__/ 1 2 3 4 5 ... ...
29. Does vocational education significantly impact on the drop-out rate of 'at-risk' youth?	3-5	5	4.00	/__/__/__/__/__/ 1 2 3 4 5 ... ...
30. What are the effects of postsecondary continuing and adult education on transition models for special populations?	2-5	4	3.53	/__/__/__/__/__/ 1 2 3 4 5 ... ...
31. What are effective funding and staffing policies and procedures which facilitate cooperative delivery of vocational special needs services across the fields of vocational and special education?	2-4	3	3.21	/__/__/__/__/__/ 1 2 3 4 5 ... ...
32. In what ways do various program components (e.g., assessment) interact with student outcomes (e.g., employment, earnings, further education)?	3-5	4	3.68	/__/__/__/__/__/ 1 2 3 4 5 ... ...
33. What is the degree of applicability of existing theories of occupational choice to special needs persons.	2-3	3	2.58	/__/__/__/__/__/ 1 2 3 4 5 ... ...
34. The current state of the art in vocational assessment practices in secondary vocational education programs.	2-4	4	3.37	/__/__/__/__/__/ 1 2 3 4 5 ... ...
35. What training is required for vocational education and and adaptive vocational education teachers/ instructors related to students with special needs?	2-4	3	3.00	/__/__/__/__/__/ : 2 3 4 5 ... ...
36. What is (should be) the relationship between vocational special needs programming and the transition planning process for youth with special needs?	2-4	3	3.21	/__/__/__/__/__/ 1 2 3 4 5 ... ...
37. Research which addresses the socio-economic needs of the homeless in America and its relationship to VSN programs.	2-4	2	2.74	/__/__/__/__/__/ 1 2 3 4 5 ... ...

Research Priority Item	Group Responses (Consensus) from Round 2			Your Response(s)
	Q	Mdn	Mean	Place (X) In Appropriate Section
				Least Need 1 2 3 4 5 Highest Need
38. Coordination of community-based transitional services for special populations.	2-4	3	2.74	/__/__/__/__/__/ 1 2 3 4 5
39. Which types of curriculum- and performance-based assessment procedures provide the most useful information to those making decisions about the placement and participation of youth with special needs in vocational programs?	3-4	4	3.74	/__/__/__/__/__/ 1 2 3 4 5
40. What is the adequacy, quality, and effectiveness of vocational programs on occupational success of special participants?	3-5	4	3.84	/__/__/__/__/__/ 1 2 3 4 5
41. Research examining the use of applied basic academic skills and generalizable skill strategies in programs for special populations.	3-4	4	3.47	/__/__/__/__/__/ 1 2 3 4 5
42. Develop and compare critical thinking and problem solving strategies for special populations.	2-4	3	3.05	/__/__/__/__/__/ 1 2 3 4 5
43. To what extent will we see individualized planning mandates expend, stabilize, or diminish across all special needs groups?	1-3	2	2.32	/__/__/__/__/__/ 1 2 3 4 5
44. What is the economic impact of vocational education on 'at-risk' youth?	3-5	4	3.90	/__/__/__/__/__/ 1 2 3 4 5
45. What are the goals, purposes, and learner outcomes for vocational special needs education?	2-3	3	2.79	/__/__/__/__/__/ 1 2 3 4 5
46. How will the interaction of changing demographics (i.e., aging society, increased number of minorities) and changing workplace requirements (i.e, increasing technologies, emphasis on adaptability and problem-solving skills) in the 1990s affect vocational curricula and vocational outcomes of special needs students?	3-5	4	4.05	/__/__/__/__/__/ 1 2 3 4 5
47. What is the effect of the IEP process on access and equity for special needs learners?	3-4	3	3.16	/__/__/__/__/__/ 1 2 3 4 5

Research Priority Item	Group Responses (Consensus) from Round 2			Your Response(s)
	Q	Mdn	Mean	Place (X) In Appropriate Section
				Least Need ... Highest Need
48. Compare and contrast vocational training for special needs populations in secondary and postsecondary settings.	2-4	3	3.16	/__/__/__/__/__/ 1 2 3 4 5 ... ...
49. Articulation between secondary and postsecondary institutions for special populations (e.g., services, information, application procedures, testing).	2-4	3	3.17	/__/__/__/__/__/ 1 2 3 4 5 ... ...
50. To what extent are vocational special needs specialists professionally integrated in professional organizations (e.g., AVA)?	1-3	1	1.78	/__/__/__/__/__/ 1 2 3 4 5 ... ...
51. To what extent can VSN programs concurrently serve the purposes of quality and equity?	2-3	2	2.37	/__/__/__/__/__/ 1 2 3 4 5 ... ...
52. Describe the demographics of students with handicaps who are not enrolled in vocational education but would like to be (e.g., how many, what are their disabilities, what are the reasons for them not being in vocational education courses?	2-4	2	2.72	/__/__/__/__/__/ 1 2 3 4 5 ... ...
53. What is the impact of increased graduation requirements on the vocational preparation of special needs individuals?	4-5	4	4.11	/__/__/__/__/__/ 1 2 3 4 5 ... ...
54. Determine the levels and types of jobs for which vocational training must be targeted and determine which strategies are most effective in the schools.	2-4	3	2.79	/__/__/__/__/__/ 1 2 3 4 5 ... ...
55. Research to examine the fiscal efficacy of programs (if any) for vocational special needs students.	1-3	2	2.53	/__/__/__/__/__/ 1 2 3 4 5 ... ...
56. How can vocational educators integrate positive role models in special needs instruction and what are the effects of doing so?	2-4	3	2.68	/__/__/__/__/__/ 1 2 3 4 5 ... ...
57. What types of cognitive differences exist (if any) between special needs students and non-special needs students.	1-3	1	1.95	/__/__/__/__/__/ 1 2 3 4 5 ... ...

Research Priority Item	Group Responses (Consensus) from Round 2			Your Response(s)
	Q	Mdn	Mean	Place (X) In Appropriate Section
				Least Need ... Highest Need
58. How can regular vocational education instructors best be prepared to accommodate students with increasingly severe special needs?	3-4	3	3.58	/__/__/__/__/__/ 1 2 3 4 5 ... ...
59. What are the long-term effects (if any) which special needs students have after receiving support services while enrolled in vocational education? i.e., longer employment records, income, better self-esteem, etc.	3-5	4	3.84	/__/__/__/__/__/ 1 2 3 4 5 ... ...
60. What discrepancy exists between the continuing program and service needs of special needs individuals exiting public schools and the capacity of adult service providers to meet those needs?	3-5	3	3.42	/__/__/__/__/__/ 1 2 3 4 5 ... ...
61. What alternatives are available to provide vocational special needs education to special needs students in schools that do not offer vocational education?	2-4	3	2.95	/__/__/__/__/__/ 1 2 3 4 5 ... ...
62. How will the changing nature of the workforce affect training and employment opportunities for special needs learners?	3-5	4	3.90	/__/__/__/__/__/ 1 2 3 4 5 ... ...
63. What incentives are needed to keep vocational special needs programs alive and viable? What does it take to keep districts and states in the vocational special needs business? i.e., federal legislation, set-asides, etc.	2-4	3	3.06	/__/__/__/__/__/ 1 2 3 4 5 ... ...
64. What are the long-range (5-10 years) follow-up services that should be provided to secondary special needs graduates and program leavers?	3-5	4	3.53	/__/__/__/__/__/ 1 2 3 4 5 ... ...
65. What are the most effective models of preparation for vocational special needs personnel?	2-4	4	3.21	/__/__/__/__/__/ 1 2 3 4 5 ... ...
66. How do intrinsic and extrinsic motivation-related factors affect learning and teaching?	1-3	3	2.42	/__/__/__/__/__/ 1 2 3 4 5 ... ...
67. How can we identify special needs learners earlier in their educational careers?	1-4	2	2.32	/__/__/__/__/__/ 1 2 3 4 5 ... ...

Research Priority Item	Group Responses (Consensus) from Round 2			Your Response(s)
	Q	Mdn	Mean	Place (X) In Appropriate Section
				Least Need ... Highest Need
68. What intervention and collaborative strategies are most effective for facilitating interagency cooperation and how can these be taught to transition specialists?	2·4	3	3.26	/__/__/__/__/__/ 1 2 3 4 5
69. What is the long-term effect of supported work programs on the employment of persons with disabilities?	2·4	3	2.84	/__/__/__/__/__/ 1 2 3 4 5
70. What training needs are still evident in vocational special needs today for the professionals who administer, teach, and provide services for vocational special needs programs?	3·4	4	3.37	/__/__/__/__/__/ 1 2 3 4 5
71. What methodologies are most effective for integrating the instruction of related academics with core vocational programming areas?	2·4	4	3.37	/__/__/__/__/__/ 1 2 3 4 5
72. What strategies best enable teachers to effectively follow-up special needs clients and determine program impact on those clients?	2·4	3	2.95	/__/__/__/__/__/ 1 2 3 4 5
73. How can we make a more functional curriculum as important as academics in a time in which school reform focuses only on academics?	3·5	5	4.11	/__/__/__/__/__/ 1 2 3 4 5
74. How can regular vocational education curriculum best be designed to accommodate students with increasingly severe special needs problems?	2·4	3	3.21	/__/__/__/__/__/ 1 2 3 4 5
75. Does vocational education afford 'at-risk' youth an opportunity to leave the environment of the inner-city?	1·3	2	2.42	/__/__/__/__/__/ 1 2 3 4 5
76. How can the transition process be standardized for all special needs students?	1·3	2	2.32	/__/__/__/__/__/ 1 2 3 4 5
77. Given the changes in the workforce and the growing diversity in America's population (youth and adults), what should be done to accommodate these trends in VSN programs and services?	3·5	4	3.74	/__/__/__/__/__/ 1 2 3 4 5

Research Priority Item	Group Responses (Consensus) from Round 2			Your Response(s)
	Q	Mdn	Mean	Place (X) In Appropriate Section
				Least Need ... Highest Need
78. Compare and contrast current service delivery models with an individual education contractor model of providing services to students with special needs.	1·3	2	2.26	/__/__/__/__/__/ 1 2 3 4 5 ... ...
79. Are there more efficient and less time-consuming planning processes for special needs students than current IEP processes?	1·3	2	2.47	/__/__/__/__/__/ 1 2 3 4 5 ... ...
80. How can vocational education insure that vocational courses count toward graduation requirements for special needs students who cannot pass more English, science, and math?	2·5	3	3.11	/__/__/__/__/__/ 1 2 3 4 5 ... ...
81. To what extent have community colleges identified and provided viable programs focused on the unique needs of students who have been primarily in resource settings in secondary schools and may not have had opportunities to participate in vocational training or work experience programs?	3·4	4	3.37	/__/__/__/__/__/ 1 2 3 4 5 ... ...
82. Procedures or methodologies to assist special needs personnel to work cooperatively with vocational education programs.	2·3	3	2.58	/__/__/__/__/__/ 1 2 3 4 5 ... ...
83. Which teacher education program components/strategies (if any) are effective at enabling teachers to successfully accommodate a diverse array of special needs learners in vocational education programs (and expand the diversity of special needs learners enrolled in vocational education programs)?	2·5	3	3.39	/__/__/__/__/__/ 1 2 3 4 5 ... ...
84. How can the predicted labor shortages of the 1990s be targeted on behalf of special needs students?	3·4	3	3.62	/__/__/__/__/__/ 1 2 3 4 5 ... ...
85. How do we measure the results of special needs programs? What should be considered important in conducting program reviews and/or evaluations (i.e., skills attained, job placement, etc.)?	4·4	4	4.00	/__/__/__/__/__/ 1 2 3 4 5 ... ...
86. Examination of how special needs students can be motivated, as a subset of specific instructional strategies.	2·4	3	2.79	/__/__/__/__/__/ 1 2 3 4 5 ... ...

Research Priority Item	Group Responses (Consensus) from Round 2			Your Response(s)
	Q	Mdn	Mean	Place (X) In Appropriate Section
				Least Need ... Highest Need
87. How do economic conditions impact the nature and degree of employment training options for special needs individuals?	1-4	3	2.63	/__/__/__/__/__/ 1 2 3 4 5
88. What processes, collaborative arrangements, and financial considerations need to be addressed when attempting to institutionalize model transition programs, especially especially at the postsecondary level where ownership and responsibility are in question?	2-5	3	3.37	/__/__/__/__/__/ 1 2 3 4 5
89. What will be (should be) the role of the family in serving special needs students in the next decade?	3-4	4	3.47	/__/__/__/__/__/ 1 2 3 4 5
90. How can access to, and equity within, regular vocational education programs by special needs students be monitored across the country in ways that are (a) reasonable in their reporting burdens, and (b) aggregatable across locales, regions, and states?	2-5	3	3.32	/__/__/__/__/__/ 1 2 3 4 5
91. Examine possible changes in federal support programs (e.g., SSI, SSDI) to special needs individuals. Would changes provide greater employment opportunities for student with special needs?	2-5	4	3.26	/__/__/__/__/__/ 1 2 3 4 5

RESEARCH PRIORITIES IN VOCATIONAL SPECIAL NEEDS: A DELPHI APPROACH

Round 3 Questionnaire: Part B

DIRECTIONS: Review the major research categories which are listed below. Information provided for each major research category includes: (a) Rankings you gave in Round 2, (b) group means, and (c) overall group rankings. As you review this information, please re-rank the categories in the order of their importance (i.e., impact) on the field of vocational special needs education. As you rank them, answer the following question: **Which category of research should be addressed before all others?** *The most important research category would be ranked number 1, while the least important would be ranked number 9. Please change original responses as you feel appropriate.*

Major Research Category	Group Mean	Group Rank	Your Previous Ranking	Your Final Ranking
Policy Issues and Related Research	3.211	1	____	____
[a]Curriculum and Programming Research	3.368	2.5	____	____
[a]Delivery Systems Research	3.368	2.5	____	____
Instruction and Instructional Strategies Research	3.824	4	____	____
Professional Training and Development Research	4.105	5	____	____
Student-Related Research	4.316	6	____	____
Collaboration and Articulation Research	4.579	7	____	____
Program Evaluation Research	4.947	8	____	____
[b]Assessment and Related Research	0.053	9	____	____

[a]Reviewers and VSN experts suggested that the original category Curriculum, Programming, and Delivery Systems Research was too broad. Most advocated that they be divided into two separate research categories, as shown.

[b]This category was proposed during the last round and represents a new addition to Round 3.

APPENDIX E

Phase 2 Questionnaire Administered to National Sample

RESEARCH PRIORITIES IN VOCATIONAL SPECIAL NEEDS EDUCATION

Part I
Demographic Information

Directions: Please complete the following questions regarding demographic information.

Note. Demographic data will be used only for purposes of providing an overall (group) description of respondents - no individual information will be reported. As with all aspects of this research study, demographic information will be held in the strictest of confidence.

1. Gender: ( ) Male ( ) Female.

2. Age: _____.

3. Please check all of the following that best describe your current position.

____ Special educator	____ Vocational educator
____ Vocational rehabilitation counselor	____ Vocational special needs educator
____ University faculty/researcher	____ Local administrator
____ State administrator	____ Funded project director
____ Other (please specify _____).	

4. Indicate the primary target area of your job. ( ) Local ( ) Regional ( ) State-wide

5. Years of experience in your current job? _____.

6. Total number of years in vocational special needs-related field(s). _____.

7. What is your highest earned degree (bachelors, bachelors plus graduate hours, masters, masters plus additional graduate hours, doctorate, etc.)? _____.

8. Indicate the group(s) of students/clients with which you are most actively involved (check all that apply).

____ Mentally retarded	____ Academically disadvantaged
____ Learning disabled	____ Economically disadvantaged
____ Behaviorally impaired	____ Limited English proficient
____ Other (please specify _____).	

9. In what state do you currently reside? _____.

10. Type of community where you work. ( ) Urban ( ) Suburban ( ) Small Town/Rural

Thank you for your assistance in the completion of this process.

Part II
Research Priorities

Directions: The 30 statements listed below have been identified as areas which pose the greatest need for empirical investigation during the next decade. The purpose of this questionnaire is to identify the directions for future research efforts in vocational special needs education. Please review each statement and then rate the level of need you feel the statement presents to the field of vocational special needs education.

Scale: **1 = Not Important (No Need); 3 = Moderately Important (Medium Need); 5 = Absolutely Essential (Very High Need); DK = Don't Know**

	Circle Appropriate Response					
	Least Need				Highest Need	Don't Know
1. How can a functional curriculum be made as important as academics in a time in which school reform focuses only on academics?	1	2	3	4	5	DK
2. How will the interaction of changing demographics (i.e., aging society, increased number of minorities) and changing workplace requirements (i.e., increasing emphasis on adaptability and problem-solving skills) in the 1990s affect vocational curricula and vocational outcomes of special needs students?	1	2	3	4	5	DK
3. Does vocational education significantly impact on drop-out rates of "at-risk" youth?	1	2	3	4	5	DK
4. The use of applied academic skills and generalizable skill strategies in programs for special populations.	1	2	3	4	5	DK
5. Examination of possible changes in federal support programs (e.g., SSI, SSDI) to special needs individuals. Would changes provide greater employment opportunities for students with special needs?	1	2	3	4	5	DK
6. What is the adequacy, quality, and effectiveness of vocational programs on occupational success of special participants?	1	2	3	4	5	DK
7. What is the effect of least restrictive environment placements on the achievement of special needs students?	1	2	3	4	5	DK
8. What is the economic impact of vocational education on "at-risk" youth?	1	2	3	4	5	DK
9. What are components of effective collaboration between vocational classroom teachers and industry to better prepare "at-risk" students for employment?	1	2	3	4	5	DK
10. What are the long-range (5-10 years) follow-up services that should be provided to secondary special needs graduates and program leavers?	1	2	3	4	5	DK
11. What is the impact of increased graduation requirements on the vocational preparation of special needs individuals?	1	2	3	4	5	DK
12. To what extent have community colleges identified and provided viable programs focused on the unique needs of students who have been primarily in resource settings in secondary schools and may not have had opportunities to participate in vocational training or work experience programs?	1	2	3	4	5	DK
13. What are the long-term effects (if any) which special needs students have after receiving support services while enrolled in vocational education (i.e., longer employment records, better self-esteem, etc.)?	1	2	3	4	5	DK
14. What is the current state of the art in vocational assessment practices in secondary vocational education programs?	1	2	3	4	5	DK

	Circle Appropriate Response					
	Least Need				Highest Need	Don't Know
15. Compare and contrast strategies to increase self-esteem in "at-risk" students.	1	2	3	4	5	DK
16. What will be (should be) the role of the family in serving special needs students in the next decade?	1	2	3	4	5	DK
17. In what ways do various program components (e.g., assessment) interact with student outcomes (e.g., employment, earnings, further education)?	1	2	3	4	5	DK
18. What discrepancy exists between continuing program and service needs of special needs individuals exiting public schools that do not offer vocational education?	1	2	3	4	5	DK
19. Which types of curriculum- and performance-based assessment procedures provide the most useful information to those making decisions about placement and participation of youth with special needs in vocational programs?	1	2	3	4	5	DK
20. Is vocational education providing students with special needs training in occupations which correlate with existing job offerings?	1	2	3	4	5	DK
21. How do we measure the results of special needs programs? What should be considered important in conducting program reviews and/or evaluations (i.e., skills attained, job placement, etc.)?	1	2	3	4	5	DK
22. What training needs are evident for professionals in vocational special needs who administer, teach, and provide services for special needs programs?	1	2	3	4	5	DK
23. What methodologies are most effective for integrating the instruction of related academics with core vocational programming areas?	1	2	3	4	5	DK
24. Follow-up study of special needs graduates and non-graduates of vocational training programs to include (1) employment status, (2) satisfaction with life (i.e., self-esteem, marital status, income level, etc.).	1	2	3	4	5	DK
25. Describe and compare methods of teacher effectiveness training for educators of "at-risk" students.	1	2	3	4	5	DK
26. Compare and contrast community-based work experience training and classroom-based training with respect to the acquisition of skills and permanent employment.	1	2	3	4	5	DK
27. What are the effects of postsecondary continuing and adult education on transition models for special populations?	1	2	3	4	5	DK
28. Which teacher education program components/strategies (if any) are effective at enabling teachers to successfully accommodate a diverse array of special needs learners in vocational education programs (and expand the diversity of special needs learners enrolled in vocational education programs)?	1	2	3	4	5	DK
29. What processes, collaborative arrangements, and financial considerations need to be addressed when attempting to institutionalize model transition programs, especially at the postsecondary level where ownership and responsibility are in question?	1	2	3	4	5	DK
30. What support models are most efficacious regarding different needs of individuals?	1	2	3	4	5	DK

Part III

Directions: *The statements which you have just rated were generated by university-affiliated personnel. It is quite probable that there are other important research needs facing vocational special education which have not been included. Please reflect on your own beliefs as to the most needed areas of research for vocational special needs education over the next 10 years and add these research statements below.*

1.

2.

3.

Please feel free to add any additional comments you have concerning future research needs in vocational special education.

APPENDIX F

List of Additional Research Needs Identified by Vocational Special Needs Professionals.

Factor 1: Professional Training and Development.

A. Preservice/Inservice.

1. What methods of inservice on integration, employability skills, and infusion activities are most effective for classroom teachers?
2. Parent and staff training to assist with education of vocational students.
3. Training classroom teachers with mainstreamed special needs students how to adjust curriculum (instead of using different curriculum) and teaching styles that adjust to student learning styles (research the effective versus the ineffective).
4. Foster attitudes to be more effectively serve special needs students (i.e., general public, board of trustees, administrators and instructional staff). Teacher and counselor preparation programs should include courses or course content for serving special needs students - professional development is needed.
5. How willing are "veteran" vocational education teachers to relearn or rethink the methods they use to deal with special students?
6. Research on teachers' values.
7. How can cultural diversity awareness in professionals augment their effectiveness in dealing with minorities (includes ethnic, as well as disabled)?
8. How do special needs educators compare with vocational educators in preparing special populations for job placement?
9. What are the training needs of supervisors in sheltered workshops?
10. What are the proper training requirements for vocational educators to prepare them to work with special populations?

A1. Staffing Issues in VSN Education.

1. Examine the role of job placement specialist on high school campuses (best practices research).
2. What types of personal characteristics ensure success for special needs educators?
3. Need to develop ways to expand the awareness of administrators to the real problems of "at-risk" students and to help in developing workable solutions.
4. How can school psychological personnel be best used in vocational settings for assessment, special education consultation, staff development training and behavior management programming?

B. Vocational Assessment.

1. What counseling methods can be used to coordinate performance-based assessment with transitioning students into the workplace?
2. Does vocational testing improve job placement or career planning for the handicapped?
3. What benefits exist, if any, in administering evaluations to assess aptitude, abilities, and interests over an evaluation that only assesses interests.
4. Need to develop a nontraditional aptitude and interest inventory (especially for mentally handicapped) that works in cooperation with "work" experience received.
5. What strategies can best facilitate student needs following performance-based assessment?
6. Assessment tools/strategies need to be developed for limited English proficient students.
7. What is the most effective means of assessment for special populations to determine appropriate vocational programming?

C. Enhancement of Instruction.

1. Development of computer-assisted Individualized Vocational Education Plans (IVEPs).
2. How can technology be used as a tool in the learning experience of special needs students?
3. What language training models (transitional, concurrent, cluster, or occupational specific vocational ESL) have greatest impact on success in training and in the workplace?

C. **Enhancement of Instruction (continued).**
4. How can standard vocational equipment be modified?
5. School administrators, school boards, and teachers need to develop strategies for integration of academic and vocational education.
6. How can vocational programs be adapted to meet the needs of the educable and trainable mentally handicapped?

Factor 2: Quality Measures of Student Outcomes.
1. What effect do "self-contained" programs have on the achievement and self-concept of special needs students in vocational programs ?
2. Follow-up studies of postsecondary students who have attended/graduated from colleges and universities.
3. In what ways do special needs graduates differ in employment rates, living arrangements, and life satisfaction from non-college bound graduates?

Factor 3: Transition/Delivery Systems.
1. What is the place (value) of job coaching/supported employment as an institutional model for severely developmentally disabled students prior to graduation?
2. Research into federal (regulatory, policy) and interagency barriers to successful transition.
3. Methods for developing and maintaining supported employment services in rural areas.
4. The results of (including academic success) of moving special needs students from self-contained programs to vocational programs that are two or more hours in length.
5. Compare and contrast flexible-time vocational programming with traditional set vocational programming.
6. Supported competitive employment - transitioning from school to work in respect to adult agencies and follow-along services.
7. Explore and develop a variety of on-the-job training arrangements to meet the needs of minority workers.
8. Better ways to utilize the community as a training site.
9. How can the needs of special populations be met in rural settings where employment sources are often limited?

Factor 4: Program Evaluation.
1. Does career planning and vocational training in the junior high school curriculum facilitate or increase job placement or job employment longevity for special needs students?
2. Compare programs for a specific special needs populations with programs which combine all special needs students together, regardless of need.
3. Compare the success of individuals who have been informed about the transition process in the 8th grade as opposed to beginning in the 12th grade.
4. Compare models of where academic skills are taught in context of social, physical, and personal career aspirations of students with current practices of "non-contextual" learning.
5. Compare special needs students who are mainstreamed with those who were not five years after entering the workplace by their type of learning disability.
6. What are the effects of a functional curriculum on increasing employment for developmentally disabled individuals?
7. A need to follow-up graduates to determine how programs might be modified and improved.
8. What is the impact of technology on vocational education and special services or instructional assistance for special needs populations?
9. Is there are difference in access to vocational education for special needs students in urban versus rural/suburban areas?
10. How effective are career orientation programs for special needs students prior to placement in vocational (skill) programs?
11. How can populations at greatest risk be reached (e.g., black males, limited English proficient, etc.) and how can they best be taught specific work skills and the work ethic?

Factor 4: Program Evaluation (continued).

12. What is the effect of the emergence job retraining and the blending of high school and adult students?
13. Where is mainstreaming actually occurring? What makes it work? How can you transfer that information to the many places that it doesn't work or occur?
14. What is the most effective age to promote specific aspects of vocational programs?
15. What is the correlation between on-the-job training for special needs students as part of their high school experience and the rate of employment due to this training?
16. How can vocational-related materials and classes be used to teach basic skills? (2 identical responses)
17. What are the best methods of integrating academics with vocational programming?
18. Are there "generalizable skills" which can be taught to LEP students in a variety of vocational fields?

Factor 5: Relevance of Vocational Preparation.

1. What are the most effective methods to train employers about special needs programs and workers?
2. How can programs be kept up-to-date and related to the regional economic base?
3. Based upon employer information, what are the most important skills necessary for a handicapped worker to be successful in an entry-level job?
4. How can functional curricula be developed that clearly identify labor market needs, job place competencies and personal growth promotion?
5. What components of secondary curriculum provide skills needed for success of adults with special needs? Which components are not helpful?
6. To what extent do the current special education/vocational curricula address the skills identified as most necessary by employers?

Collaboration and Articulation.

Education-Adult Services (Secondary-Postsecondary).

1. How can special educators and vocational educators cooperate in joint ventures of educating students in vocational areas (2 identical responses).
3. What programs can 4-year postsecondary institutions provide that will enhance the delivery of education to disadvantaged minority students, i.e., specific education courses in Colleges of Education?
4. What strategies will help to develop teamwork between vocational instructors and langauge specialists?
5. Need to develop community college assistance to high school in several areas - curriculum coordination with college programs, and training technical and support service staff.
6. What are ways to integrate the various vocational programs in a school so that there is not too much overlap?
7. How can vocational support teams be developed and maintained to assure success for special needs learners?
8. What are the most effective measures for collaboration among vocational education, special education, and academic teachers?

Education-Business/Industry.

1. How can better partnerships between education and business/industry be developed and implemented?
2. How can collaboration between education and employment resources/services be increased?
3. How can systems change and the perceptions of employers in the local community be changed?
4. What are the most efficient means to educate local employers on types of vocational training received by special needs learners?

Education-Business/Industry (continued).

5. What types of methods can be used too effectively motivate, plan, and implement greater industry/school vocational program cooperation?
6. How can greater community support through involvement in training programs be developed?
7. What types of networks can be developed to help locate jobs which meet the skills and interests of students after graduation?
8. Given that generally a small percentage of companies hire the disabled, what would be useful for the majority of employers to know to increase the availability of opportunities for disabled workers?
9. What types of skills are most often required for the types of jobs severely disabled individuals are likely to be in?

Interagency Cooperation.

1. What agencies can be most effective in dealing with various populations with special needs?
2. What is the most effective method of obtaining interagency cooperation in order to establish an effective placement program for learners with special needs?

Factor 6: Support Systems/Ancillary Services.

1. What support systems are available "in lieu" of parents for postgraduates of vocational special needs programs?
2. How can the Social Security PASS program be used by parents and educators to facilitate more responsible and self-sufficient special needs students?

Factor 7: Personal/Sociological Issues.

A. Personal Issues.

1. How do cultural differences and limited English speaking ability impact on success at school?
2. What are the best methods for identifying students who have special needs ?
3. What are the most efficacious ways to develop and maintain teacher-parent contact and how does the quality of this relationship impact on a student's success?
4. How does self-esteem and the work ethic work together?
5. A variety of issues dealing with self-esteem must be addressed (2 identical responses).
7. How can self-concept and interpersonal relationship skills be enhanced to increase job-related success?
8. How can motivation for work be developed in special education students?
9. How can a work ethic be instilled in special needs students?
10. What self-advocacy skills are taught to special needs students and which ones are the most effective?
11. How can special needs learners become more self-directed in school and in the workplace?
12. Why do students fail in vocational special needs programs and what resources might prevent this failure?
13. How does the breakdown of the family contribute to the increase of the number of educationally and economically disabled, as well as behavioral impaired?
14. How do personal factors such as home environment, parents' education level, availability of role models, etc. impact on academic/vocational achievement?

B. Sociological Issues.

1. What are the biases which face students who are handicapped, disadvantaged, drop-put or otherwise "at-risk"?
2. What are the effects of local or are economies on the occupational success and life satisfaction of special needs graduates?
3. Is the employment success of special needs individuals more or less likely in a rural setting?
4. What are the general economic trends in the U.S. for the next 10 years and how realistic are our projections for employment of special needs students?
5. What is the changing nature of the workplace and how does this impact on the special needs workforce? (3 identical responses)
8. What are the job trends for the next decade? Where will unskilled job openings be?
9. Where are the largest number of jobs located (in which field) for special populations?
10. What is the impact of union contracts on the availability of job experiences for the developmentally disabled, particularly those involving cities, towns, and state governments?
11. What are the long-term effects of mainstreamed special education?

Factor 8: Policy Issues

A. Curriculum and Programming.

1. Should special needs programs be regionalized within states?
2. How can policy development be tied more closely with student.graduate outcomes?
3. What types of changes are needed in current regulations to permit work experience for noncredit programs in community college special needs populations.
4. How can state and local graduation requirements be modified or adapted to special populations?
5. What is the best approach to developing standards and quality indicators for adult service agencies?
6. How much active participation do vocational educators take in transition planning? Do they actually attend IEP meetings as active participants?
7. What factors facilitate adoption of transition planning programs at the local level (e.g., adoption of planning mechanisms such as interagency teams)?
8. How can vocational institutions support their special needs departments more fully as an integral part of their campus?
9. Which teacher (special education or vocational education) is better prepared to teach special needs youth? Should there be specific special needs/vocational teacher certification?
10. What are the most efficient methods of organizing special needs programs?
11. What can educators do to increase the number of employment options available to students upon graduation?
12. How can the need for increases in subsidized training and employment for difficult to place students be brought to the attention of those in decision-making roles?
13. How can classroom time be set aside for career preparation in grades 7-9 and students in these classes receive credit for it?
14. How does the Tech-Prep model in the new Carl Perkins Voc Ed legislation assist in the vocational education of disadvantaged students?
15. What language proficiency levels should be set as entrance criteria for successful participation in particular occupational areas?

B. Legislation and Political Mandates.

1. What are (should be) the roles of the school systems and/or postsecondary institutions in the provision of family life education and special support services to avert the impending crisis in our society?
2. What benefits will be gained by special needs students who have vocational education as a priority area in their education?
3. How can the image of vocational education and special needs students be changed within a school district? (2 identical responses)
5. System reform on a more radical level must be addressed!
6. What is the impact of graduation requirements on special needs populations?

C. Funding.

1. How can funding be targeted to support community-based learning activities, job coaches, and transition to the workforce?
2. Where will the money come from to pay for transportation (especially in rural areas), job coaches, or incentive pay for students?
3. What are the most cost-efficient methods of supporting the use of job coaches for 16-21 year old high school students?
4. How can additional funds be generated to implement new programs and expand existing vocational programs?
5. What are the ways in which funding can be more effectively distributed to benefit vocational education?
6. How can funding be targeted toward establishing/using job sites for students not ready for competitive employment?
7. In a time of limited funding for education, what priorities should funding agencies set to determine which programs will best meet the needs of special populations as they make the transition from high school to the world of work?
8. Will the rights and benefits of special needs learners be extended to postsecondary education without additional costs?
9. As special education funding diminishes, what will the effect for small group special education projects be (i.e., $n > 10$)?