

# The JOURNAL

For Vocational Special Needs Education

SPRING 2007

Volume 29 Number 3



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- **Enhancing and Evaluating Content on Teambuilding in a Graduate Transition Course**
- **Student Knowledge and Perceptions of Individual Transition Planning**
- **Employment Status of Individuals with Disabilities**

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# Author Guidelines for JVSNE

## Purpose

The purpose of the Journal for Vocational Special Needs Education (JVSNE) is to advance the professional development of personnel in the field who are engaged in educating students from wide variety of special populations with an emphasis on educators, service providers, staff, and administrators who provide education or training for students preparing for the workforce and postsecondary education. Consistent with our purpose, we seek to publish articles that assist personnel who provide education or services to special population students from a diverse array of education or training settings. Articles should be centered on one of the following objectives: a) illustrate practical information; b) provide resources for the classroom or training setting; c) provide tools for the classroom or training setting; and d) report research.

JVSNE has an open submissions policy and seeks manuscripts from the field on a wide variety of practical issues confronting special needs personnel and the individuals they serve. We encourage submissions that include multiple authors representing the diversity of professional roles within the field.

We seek to publish original work that describes action research, research with an applied focus, specific instructional and management interventions. We also seek articles that help us understand underrepresented points of view, (i.e. foster care issues, Native American education issues, incarcerated youth issues) issues concerning service delivery, curriculum, and roles; strategies for fostering professional development; information pertaining to state and federal legislation that impact services from a variety of entities servicing special popula-

tions (i.e. vocational rehabilitation legislation, the McKinney Homeless Act, Juvenile Justice Act); and issues related to the effectiveness of workforce education and training for special populations. Manuscripts on these, as well as additional topics, will be accepted at any time.

## Guidelines

### STYLE

Focus must be on the practical application of knowledge for special populations and those professionals who work with individuals from this category in any capacity related to workforce education and training, postsecondary education, or workforce education and training issues. We encourage authors to avoid jargon that may only be understood by one professional field working with those populations and to be mindful that the journal audience is diverse in its training and background because the personnel from the field of special populations are diverse.

We seek manuscripts that have a central message, that are pertinent to the professionals within the field, that are research based (either from hardscience research, or qualitative action research in the classroom or training setting) but that are written in a way that will allow individuals within this field, whether novice or advanced in their knowledge, to utilize the information in their professional capacity with special populations. When research from other individuals is included in the manuscript, it must be properly cited in accordance with the American Psychological Association Manual (5th edition).

### FORMAT

Manuscripts should be well organized, follow a central theme, and be written in a direct, clear style. All materials must be typed, double-spaced, including

quotations and references, in 12 point font with one inch margins. Table and figures should be clearly labeled and, if they are from other research, should be cited appropriately.

### LENGTH

Manuscripts should not exceed 50 double spaced typed pages. This includes the cover page, abstract, figures, and references.

### SUBMISSION

Manuscripts will be accepted for review when the author(s) provide: a) a cover letter indicating that the manuscript has not been published, or is not being considered for publication anywhere else, in whole or in substantial part; b) the original manuscript and three copies; c) an address, both mailing and email, where the recipient can be reached for clarification of any material submitted, for notification of acceptance of publication, or for notification of nonacceptance of publication.

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## Enhancing and Evaluating Content on Teambuilding in a Graduate Transition Course

by David Hoover, Ph.D. (Cleveland State University) and Robert W. Flexer, Ph.D. (Kent State University)

### Abstract

*The purpose of this qualitative study was to demonstrate and evaluate the incorporation of teambuilding training into a graduate course on transition. A total of 33 students in two different sections of the course participated in six exercises focusing on group development and teambuilding and a group simulation. Students provided input about their perceptions of the teambuilding exercises and their own teambuilding skills in the form of journals and questionnaires. The group simulation was videotaped to provide data regarding the student's acquired skills in a structured group setting. The results demonstrated that a majority of students expressed positive opinions about the teambuilding content and that the knowledge and skills taught were applicable in transition team environments.*

### Introduction

For students with disabilities, the transition from school to adult life is critical for successful community integration. Appropriate educational planning, instruction, and support services during school and the development of relationships with community and adult services are all necessary components in successful transition. To achieve these outcomes, transition teams rely on a comprehensive and longitudinal planning process involving professionals in the fields of special education, vocational education, and related disciplines (Baer, 2005). In principle, the student and his or her parents also play a critical role in developing and implementing the transition plan. In accordance with IDEIA (2004), all of these individuals engage in the transition process as equal partners with an emphasis on team approaches.

The make-up of the team is well established, but equal and cooperative participation in the team remains a challenge. Person-centered approaches suggest the active participation and equal involvement of students and families in the planning process (Martin, Marshall, & Sale, 2004). However, for many students with disabilities and their parents, their experience is summed up by Rocks (2000), "Traditionally, the IEP meeting has become a meaningless ritual in which teachers dictate the prescribed educational program and then pass the ceremonial pen to parents to secure their signature" (p. 32). Parents often do not see themselves as effective partners in the transition process (Hanley-Maxwell,

Pogoloff, & Whitney-Thomas, 1998). The perceptions by parents and other transition partners that they are not valued contributors in the planning process serve as an indicator that planning is not a genuine and effective team process (Salember & Furney, 1997; Wehmeyer, 1998).

A model in which members cooperate in a coordinated planning process and are also willing to put aside turf issues and meld some elements of their professional roles is the transdisciplinary team (Baer, 2005; Simmons, Flexer & Bauder 2005; Lyon & Lyon, 1980). Through "role release" team members who hold transdisciplinary values embrace the student and parents as equal partners and share responsibilities in planning and service delivery across professional domains. The ability to engage in a transdisciplinary process by professionals is not a naturally occurring phenomenon. It requires both an intent to act in a transdisciplinary manner and training and practice in group work. In order to understand how the transition team can function as an interdisciplinary or transdisciplinary team, functional models of team process and group development need to be reviewed.

One such model of cooperative team process that has been widely utilized in industry for several decades is drawn from the methodology of total quality management. Based on the works of Deming (1994) and Ishikawa (1985), the quality control circle is a small group of individuals with a vested interest in analyzing and modifying a particular process toward the goal of improved quality and efficiency of the end product. The

circle members work together to analyze the situation and create solutions through a group process emphasizing equality. Equal value is placed on the contributions of each member regardless of his/her position or rank outside of the group. Decisions by the group are achieved through a consensus of all of the members. The quality circle, along with other processes from total quality management, has been widely utilized in Japan since the 1950's and is considered a major factor in Japanese industrial pre-eminence in electronics and automotive markets worldwide (Creech, 1994).

Recent research suggests that college and university programs are not sufficiently addressing the area of team collaboration in the preparation of transition professionals. Anderson et al. (2004), in a survey of 573 higher education programs dealing with transition content in personnel preparation, found that "both the perceived importance of collaboration competencies and the amount of time dedicated to teaching collaboration competencies are relatively low compared to other competency areas. . . . Few models, strategies, and research on collaboration for transition provide a conceptual base for teaching such content to prospective practitioners" (p. 156). In addressing the need for comprehensive personnel preparation in transition and career development, Blalock et al. (2004) reviewed the diversity of roles of professionals involved in transition services and emphasized the need for teamwork among so many individuals.

Actual transition planning teams need to look more like the models of effective group process and less like those teams whose practices are perceived by parents, students, and other transition partners as lacking

opportunities for meaningful input by all members. One step to improving team functioning in the school setting is the development of teambuilding skills as a part of transition coursework. To this end, university curriculum and coursework for transition professionals must include infusion strategies to promote the development of effective teambuilding skills and competencies as an integral part of their curriculum and instructional methodologies. This study represents a first step toward expanding the preparation of the secondary special education teacher and transition specialist to include teambuilding.

The purpose of this article is to describe a strategy for operationalizing transdisciplinary team theory as applied in special education planning within a transition course. The design of the project was to train graduate students in team building and analytical strategies derived from group process and total quality management within the context of a graduate course in transition. The research questions for this qualitative study focused on assessing both the graduate students' perceptions of the effectiveness of the teambuilding exercises on the development of their teambuilding skills and their ability to apply teambuilding skills in a structured group simulation.

To address these research questions, three forms of data were collected from the students: questionnaire responses, journal entries, and videotapes of the group simulation activities of each group. Triangulation was achieved through the analysis of these three data sources. The usefulness of the strategies was determined by the students' opinions about the value of the exercises and their self-assessment of the improve-

ment in their own team skills as a result of training as well as by their demonstrated ability to apply teambuilding skills in a simulated team activity.

## Method

### *Participants*

The sample for this study consisted of 33 graduate students who were enrolled in two different sections of *Transition Programs and Services*—a graduate level course in special education at a large mid-western university. The sample consisted of practicing transition specialists, secondary special education teachers, and pre-service full-time graduate students enrolled in a transition specialist graduate program. The students brought a wide range of teaching experience in special education, from less than one year to fifteen years working in rural, urban, and suburban school districts. All of the students had some current level of professional involvement with transition-aged students with disabilities. The majority of the students had current or prior involvement with the university's Transition Center and were participating in the class under the sponsorship of an Office of Special Education and Rehabilitation Services (U.S. Department of Education) personnel preparation grant.

The students were asked to indicate prior group experience or training they had and the setting. Two students indicated some training in total quality management through employers other than school districts (i.e., Department of Human Services), and several participants indicated that they had done group work (such as role playing or group projects) as part of other teacher education classes. None of the participants had participated in specific teambuilding training in the past.

## Teambuilding Curriculum and Activities

Six exercises drawn from two different quality management training programs were selected for inclusion in the course. These activities were selected to provide students with theoretical knowledge of team and group concepts and processes as well as practical methods for organizing and analyzing information and achieving consensus in the team setting. The order of the exercises was designed to allow the students first to develop a base of knowledge about group stages and interactions, then to learn and practice specific skills and competencies related to team practice, and, finally, to apply the knowledge and skills in a team setting. Graduate students completed five sessions encompassing six exercises, followed by a simulated team activity. There were six exercises presented in the order which follows.

### LIFE MAPS

Pairs of students interviewed each other using set questions, charted the responses on poster paper, and presented a profile of their partner to the class. The questions elicited information about the interviewees' educational and employment background, personal experience with disabilities, current interests, and long-term goals. The exercise is a standard ice breaker for developing group cohesiveness. It is also useful as an information-gathering tool to be used in the assessment of students with disabilities.

### WHAT'S YOUR SYMBOL?

Students were asked to choose one of four geometric shapes which best symbolized their personality. The students were then placed in discussion groups based on their selection, and the group brainstormed to identify common personality

characteristics of the members. The groups then shared the results with the other groups and compared their responses to lists of characteristics developed by the exercise's creator. This exercise demonstrates how differing personalities contribute to the make-up of a group. It also provides an introduction to concepts of personality types which were later elaborated on in the career development section of the course content.

### COG'S LADDER

This activity illustrates the stages of group development as described in the Cog's Ladder model through a simulated team problem-solving task (Charrier, 1974). The Cog's Ladder stages were: (a) polite, (b) why we're here, (c) bid for power, (d) constructive, and (e) esprit; these stages parallel Tuckman's (Tuckman, 1965; Hills, 2002) group development stages but with more emphasis on the emotional and confrontational aspects of group interaction. Following a lecture on the stages of group development, students were arranged into a task group and an observation group. The task group was given a problem to solve by consensus within 20 minutes. The observers noted the task group's movement through the stages as well as significant comments or events in the group process. At the end of the process, members of both groups shared their impressions of the experience. The exercise effectively demonstrates the movement of a task group through progressive stages to resolution as well as how individuals assume roles and form alliances as part of the group process.

### BRAINSTORMING

Following a brief lecture outlining the types of brainstorming and guidelines, small student-led groups practiced freely generating ideas using three differ-

ent methods of brainstorming (i.e., free-form, round robin, slip). Students focused on special education and transition-related subjects during the brainstorming, such as community resources for transition planning and potential on-campus jobs for a supported employment program. Students shared their results with classmates (*due to student misunderstanding or instructor miscommunication, there were no journal entries for this exercise*).

### FISHBONE DIAGRAM

Following a lecture/demonstration on the use of a fishbone diagram to graphically display a transition goal (Ishikawa, 1985), small groups of students were given a sample transition plan. They then diagrammed the goals, objectives, and activities on the fishbone chart for each of the three transition goals.

### GANTT CHART

In small groups, students developed a responsibility matrix from the information contained in a sample transition plan. The responsibility matrix delineates calendar deadlines and responsible parties for Individualized Education Program goals, objectives, and activities in a chronological fashion. The students used the matrix to sequence the objectives and activities leading to the attainment of a transition goal and to indicate the responsible parties for service delivery.

## Group Simulation

After the completion of the training exercises, students were given the opportunity to demonstrate the team skills learned by participating in a simulated team activity focusing on planning transition services for secondary students with disabilities. Groups of five to six students were given the task of designing a school-wide program related to providing transition services for a mild-

moderate population in a high school setting. The mission charged to each group was to determine by consensus a plan for the program within a \$5,000 budget. The groups were given a two-hour time frame to complete the task. The groups were videotaped throughout the process, and the tapes were analyzed by the researcher to determine the success of the group based on:

1. The movement of the group through the developmental stages to consensus.
2. The group's use of specific teambuilding tools such as brainstorming and the Gantt chart in their process.

The six exercises were taught as part of five consecutive classes of a semester-long graduate course focusing on transition from school to adult life for special educators and transition specialists. The Gantt chart and fishbone diagram were taught together in one session. The teambuilding sessions lasted about 45 minutes to one hour out of each three-hour class session over a five-week period. The group simulation exercise was conducted in a single two-hour session following completion of the teambuilding sessions. The activities were designed to be integrated into the curriculum of a graduate course on transition, and the content of the exercises was selected to impart or reinforce the transition content of the overall course.

### **Data Collection and Analysis**

Students maintained a journal throughout the training period, and they were instructed to complete a one- to two-paragraph entry for each training session and the simulation exercise. The students were given instructions to describe each exercise and their impressions about it without further direction to allow the students an

open forum. The journal data were analyzed using the qualitative method of inductive analysis, in which statements are analyzed for emerging themes and categories inherent in the data (Patton, 1995). The journal entries were divided into individual statements; and through re-reading and analysis of the statements, the emerging (indigenous) themes of description, opinion, or application were identified. Each statement was classified into one of these three categories. Description statements were defined as comments describing the exercise content and activities and/or the student's role in that. Opinion statements were defined as comments expressing positive or negative feelings, insights, opinions, judgments, and suggestions regarding the exercise. Application statements were defined as comments which indicate an understanding of how the exercise or its lessons can be applied to other situations, including IEP and transition planning processes. This category also applies to comments reflecting the student's application of the concepts to past experiences. Opinion statements were further analyzed and classified as positive, neutral, or negative. Each statement was also classified by the specific exercise to which it pertained prior to the research as sensitizing categories.

The final team simulation exercise for each group was videotaped in its entirety by a stationary camera. The tapes were viewed by the researcher and another rater and analyzed to determine two factors. First, each group was assessed on their movement through the team stages per Cog's Ladder (Charrier, 1974) culminating in a consensus decision. In addition, the researcher identified the use of specific teambuilding

tools such as brainstorming and the Gantt Chart. Agreement between the raters was 100% on team stages and 95% on tool use.

At the end of the training period, each student completed a questionnaire covering the effectiveness of the training and the student's perception of his/her skill improvement. The questionnaire consisted of 18 questions in two sections. The questions in the first section used Likert scales to rate the applicability of the overall training. The second section of the questionnaire asked students to rate the effectiveness of each of the six exercises. Frequencies, means, and standard deviations were calculated for each of the questions in the first two sections of the questionnaire.

## **Results**

### **Journal Analysis**

Several patterns and trends emerged from the inductive analysis of the journal data. A cross categorization of the indigenous and sensitizing themes shows the frequency of descriptive, opinion, or application coded statements for each specific exercise (see Table 1). The overall number of comments for the Cog's Ladder exercise was 98, 30.6% of the total of 320 comments. This was the highest frequency of comments for any of the exercises. The Fishbone diagram and the Gantt Chart had the lowest number of comments at 34 (10.7%) each. Of the indigenous categories, the most comments fell into the Opinion category (165 of 320 or 52%). The application category had the least number of comments at 61(19%).

Each of the 165 narrative units which had been coded under the indigenous category of opinion were reviewed and rated as positive, negative, or neutral. The positive rating was used for comments which included such adjectives as "good",

“cool”, or “excellent”, such verbs as “enjoyed” and “liked” in describing the exercise, and those comments otherwise expressing a favorable attitude toward the exercise. The negative rating was used for comments which were critical of the exercises, using such adjectives as “redundant”, “underdone”, and “hard to understand”. This category also included comments which described negative experiences or interactions within an exercise, or self-critical comments (primarily the Cog’s Ladder and group simulation exercises) although not necessarily critical of the exercise itself. The neutral rating included those comments using the ambiguous adjective “interesting”, as well as comments which gave insights and observations not readily identifiable as positive or negative. The greatest number of opinions (44.8%) was rated by the researcher as positive. Less than one quarter

(23.7%) of the opinions were rated as negative.

The following statements are excerpts from the student journals organized by the specific exercises (sensitizing categories). In selecting sample comments from the journals, we focused on the indigenous categories of opinion and application as the comments in these categories are more evaluative than comments in the descriptive category.

For *Life Maps*, students wrote about the usefulness of the exercise to overcome difficulties in information gathering and discussing long-term visions with the student and family. One student journaled that “It is sometimes hard to think on the spot about exact interests and favorite things or topics,” noting the difficulty of thinking years ahead and the reluctance of parents to share information on their child. *Life Maps* can be useful for discuss-

ing decisions on where parents see their child living or what they want for their child in terms of employment, which are often gray areas. Another student pointed out how the exercise “would help the special education teacher develop a transition plan for each student by exploring their likes and dislikes. A vision statement could be developed by finding out their goals. . . .”

Students wrote quite favorably in their journals about *What’s Your Symbol?* Many of them made insightful comments about the exercise and their participation. One student noted the following: “I enjoyed the opportunity to learn more about my peers, our commonalities, and differences.” Students reflected on the value of self understanding as exemplified in this next statement from one of them: “The activity was creative in the fact that I had come up with reasons that I was a tri-

Table 1

### Cross-Categorization of Narrative Units from Journal Data by Sensitizing and Indigenous Categories<sup>a</sup>

#### *Sensitizing/ Brainstorming Categories*

Indigenous Categories	Description	Opinion	Application	Total
Life Maps	8	22	17	47
What’s Your Symbol?	13	41	10	64
Cog’s Ladder	37	50	11	98
Fishbone	8	14	12	34
Gantt Chart	10	18	6	34
Group Simulation	18	20	5	43
Total	94	165	61	320

<sup>a</sup> Students did not make journal entries for brainstorming.

angle. I also liked the personality assessment that came with my symbol." Others, though, entertained new ideas about their personal characteristics as well as related the exercise to group concepts. It was noted that understanding others' personalities "is truly something people must recognize in order to get along." Another quote directly related to group process principles: "Sometimes it is just a matter of accepting each other's differences in order to work efficiently and effectively." Additional comments discussed the exercise's potential applications related to working with students as well as applications for collaboration and teamwork. Several of the students requested copies of the complete exercise and materials for use on their jobs. One student noted: "This activity was good for establishing teamwork and collaboration of team members."

*Cog's Ladder* drew the most feedback of any of the exercises. Several students were able to relate the stages of group development they observed in the exercise to their experiences in special education planning on the job. One student noted that "The activity we did on group development was helpful in understanding the different stages. It is interesting to see how a group goes through these stages while figuring out an issue. It is helpful to know and recognize these stages, since we will be collaborating with others on a regular basis."

Another student said, "Understanding the levels really helps when trying to deal with difficult situations, such as IEP, transition, or MFE (Multi-Factored Evaluation) meetings that sometimes get very tense."

Most of the students related the *Fishbone* to the IEP planning process in their comments. A student commented that "The Fishbone diagram is an excel-

lent visual tool for showing the progression of goals and objectives over several years."

Several of the students demonstrated an understanding of how to apply the *Gantt Chart* to the IEP as a timeline and breakdown of responsibilities by team member. Students noted that the purpose of the chart is also to establish the ideas and sequential steps that are developed during the meeting. It is used as a tool to summarize and display information at a transition or IEP meeting, it assigns each part of the task to someone, and it gives a due date. Thus, everyone involved knows who is doing what and when it will be completed. Some of the students felt that the chart was redundant with information already in the IEP document and, thus, unnecessary.

### *Team Simulation*

Videotapes were made of each group during the group simulation exercise and these tapes were analyzed to determine if students moved through the group development stages described in *Cog's Ladder* (Charrier, 1974) and to identify if the groups used specific techniques learned in class. The tapes were viewed using a review form with notations for the movement through each of the five stages. The form also included a section to check off the groups' use of brainstorming, the *Gantt Chart*, and the fishbone diagram. Videotapes of three groups were analyzed. Two of the three groups moved through all five of the stages with the active involvement of all group members and achieved a consensus on their proposal. The third group experienced problems from the onset. The group was dominated by a single member who brought a pre-conceived idea to the group which he pushed relentlessly. This group became stagnated in the

Bid for Power and was unable to proceed into a Constructive phase as other members of the group declined to actively participate and the dominant member completed the proposal on his own.

All three of the groups employed the technique of brainstorming in their process. Each of the groups used brainstorming to identify potential program options. Groups One and Two also utilized the *Gantt Chart* in order to sequentially organize and create a timeline for their proposal. Group Two also outlined their proposal on a fishbone-type chart. In their journals, students had both positive and negative comments on the group simulation—mostly reflective of their group.

### *Questionnaire Ratings*

Table 2 presents data from the questionnaire items which revealed several means representing applicability, effectiveness, and overall skills about the training. With regard to application of teambuilding, a mean of 1.86 (item #2) on a five-point scale indicated that the respondents recognized the usefulness of teambuilding skills in the IEP/transition planning process. Likewise, the rating of useful in their job (item #1) fell between strongly agree and agree. In evaluating the effectiveness of the individual exercises, the rating for brainstorming fell between highly and somewhat effective based on a three-point scale. All of the individual exercises were rated as somewhat effective or highly effective by at least 75% of the respondents, with all item means below two.

### *Discussion*

It is the role of special educators and transition specialists to facilitate IEP teams in supporting successful outcomes and to ensure the participation of all group members. In order to be

effective in this role, special education professionals need specific training and experience in group process and teambuilding skills. It is important to assess the effectiveness of specific training methodologies in developing team competencies and to determine the perceived benefits of the training by the participants. An emphasis is placed on the impor-

tance of team approaches in curricula for preparing transition professionals, but practical instruction in team and group processes and skills is largely absent from teacher and transition specialist preparation programs (Anderson et al., 2004).

This study developed and tested an approach to enhancing content in a graduate course emphasizing specific teambuilding

skills. Specifically, for the students in this study who were practicing transition daily in their jobs or field placements, overall opinions regarding the usefulness of the exercises was positive. The majority of students rated all six of the individual exercises and the group simulation as effective. A majority of the students also rated the overall teambuilding training as something that would be useful in their jobs. Many of the students were also able to identify actual and potential applications for some of the specific exercises in special education and transition planning and in working with students and co-workers. Although caution is warranted due to the subjective nature of student perceptions, these results confirmed the researcher's expectations that students would respond favorably to the training.

The demonstration of positive student attitudes toward the use of group work in this context is a first step in moving toward the ideal of the transdisciplinary team (Baer, 2005). Role release (Lyon & Lyon, 1980) can only be achieved when individual team members recognize the advantages of working together as a team over working separately. Transdisciplinary process occurs when responsibility for meeting the student's needs is shared, and professionals are able to transcend the habit of operating separately within their own professional framework.

The majority of the students also were able to demonstrate the ability to participate and utilize teambuilding skills in a simulated group task. Two of the three groups achieved a successful outcome by consensus for the assigned task. In the case of the third group, even though they did not achieve a true consensus, some members

**Table 2**  
**Means and Standard Deviations for Teambuilding Questionnaire**

Program Application Items	N	Mean	Standard Deviation
1. Useful in my job	27	1.96	0.611
2. Applied to IEP planning	28	1.86	0.953
3. Training benefit for students w/ disabilities	28	1.96	0.865
4. Training benefit for parents	28	2.14	0.935
5. More training	28	2.36	1.042
Exercise Effectiveness Items	N	Mean	Standard Deviation
6. Life Maps	27	1.70	0.761
7. What's Your Symbol?	26	1.62	0.738
8. Cog's Ladder	25	1.84	0.731
9. Brainstorming	27	1.41	0.562
10. Fishbone	28	1.82	0.804
11. Gantt	26	1.92	0.729
12. Group Simulation	27	1.59	0.733

were able to identify the problems that the group experienced in their journal entries, indicating an understanding of one of the pitfalls of team process—aggressive or domineering members. All three groups used at least one of the teambuilding techniques presented in the course.

The importance of the results in this study is that the positive attitudes expressed by the participants to a systematic and coordinated teambuilding program demonstrated a recognition that such a program is a useful and desirable addition to instruction in transition. Implicit in this is some degree of intuitive understanding by the participants of a team-oriented role in the transition planning process and the need for specific training to develop the skills for this role. The research is also unique because the teambuilding training used in the research was derived from the methodologies of total quality management and organizational development, more commonly associated with business and industry. The dual focus of integrating team strategies and transition subject matter was an intentional strategy of the instructional design and was considered carefully in the adaptation of the training exercises. The importance of the results is also reflected in the participants' positive attitudes and opinions. The participants' openness toward trying methodologies from outside of traditional domains and their positive responses to them indicate that these individuals are not only willing to seek to improve themselves in non-traditional ways, but they are accepting of new and unique methodologies in teacher education as long as the purpose and value are clear.

### Limitations

The results and conclusions of this research were drawn pri-

marily from qualitative methodologies and this should be taken into account when considering generalization of the research outcomes and implications. The sample for this research was limited only to graduate students in one program at one university. This research examined only a small part of the repertoire of available teambuilding exercises used in total quality management and group process. This study did not examine the graduate students' generalization of the learned teambuilding skills to actual transition planning settings in public schools.

### Implications

The use of group activities is not unusual in teacher education coursework. Instructional methodologies in teacher education typically include activities such as role-playing, discussion groups, and group projects in the context of graduate education classes. These traditional group activities generally were used to reinforce lecture content or allow for practice of learned skills. The importance of the exercises presented in this article is that the exercises involve the use of a coordinated and systematic program of group and team activities. This study supported the concept that the roles of the special educator and transition professional require a high degree of competency in collaboration skills (Baer, 2005; deFur & Taymans, 1995).

The outcome of this research leads to more questions and implications for future research. While this project focused on teambuilding training as part of a university course, similar training could also be arranged in an in-service model in public schools. The trainees could include regular education teachers, administrators, support personnel, parents, and stu-

dents in addition to special education teachers. In this setting, follow up to determine if the processes are being applied to the actual IEP/transition planning process is possible.

### Conclusions

The majority of students did indicate, across data sources, that they felt they developed and improved their teambuilding skills as a result of the teambuilding training. Students expressed positive opinions about the exercises, expressed the opinion that their skills improved, and stated actual and potential applications for the skills and techniques used in their jobs. In addition, the majority of students were able to demonstrate application of teambuilding skills in a simulated task. There is a need in the field of special education and transition to realize in practical terms the theoretical concepts and legal mandates for teams of professionals, parents, and students with disabilities to develop and implement IEP and transition services and activities. Transition and special education professionals need to take the leading role in making sure that all potential team participants are included in the process in a meaningful way. This research is a beginning step toward the goal of developing the role of the transition and special education professional as a team facilitator in special education planning.

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This article was supported by a grant (H325D00023) funded by Office of Special Education and Rehabilitation Services. It does not necessarily represent their views.

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## Student Knowledge and Perceptions of Individual Transition Planning and its Process

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### Abstract

*Although increased attention in special education has been given to individual transition planning, little research has been done to assess student opinions and knowledge on this process. The majority of research has focused on "best practice" to ensure quality transition planning for students. This study surveyed 103 students receiving special education services at a large high school in Texas to assess student knowledge and perceptions on the current transition planning process. Students surveyed represent those with mild to moderate disabling conditions (intellectual disability, learning disability, emotional disturbance, autism, speech, and other health impairment) and were educated in a spectrum of general education and special education classrooms. Results are discussed in terms of how the students in special education have been educated on the transition process, how the special education staff used student goals and desires in writing transition plans, and overall student perceptions of the process.*

### History of Transition Planning

Education planning for individuals with disabilities has undergone radical changes since the creation of PL 94-142, the Education of the Handicapped Act (EHA) in 1975, which first mandated a free and appropriate public education for children with disabilities. This law was significantly updated in 1990 when PL 101-476, the Individuals with Disabilities Education Act (IDEA) was enacted. Some of the changes included the provision of medical services, specialized transportation, related services, and the mandate for transition services. Even more recently, the Amendments to IDEA, both in 1997 and 2004, require a transition plan by age 16. This individualized transition plan requires participation from the student and the establishment of linkages to adult service providers in order to facilitate the transition process and help assure against a gap in services upon exiting high school. Congress provided clear guidance to the delivery of transition services in the reauthorization of IDEA in 2004:

The term 'transition services' means a coordinated set of activities for a child with a disability that— (A) is designed to be a *results-oriented process*, that is focused on improving the academic and functional achievement of the child with a disability to facilitate the child's movement from school to post-school activities, including post-secondary education, vocational education, integrated employment (including supported employment), continuing and adult education, adult

services, independent living, or community participation; (B) is based on the individual child's needs, *taking into account the child's strengths, preferences, and interests...*" (Section 1401)

More recently, with the passing of Indicator 14 of the State Performance Plan on Effective Transition, school districts are now being held accountable for the post-secondary success of students served through special education (Post-School Outcome Center, 2005). The transition plan is critical in outlining and preparing for this success.

In general, past research has shown that students with disabilities achieve post-school outcomes at a much lower rate than do their non-disabled peers (Mithaug, Horiuchi, & Fanning, 1985; Sittlington, & Frank, 1990). This spans across the four main categories of post-secondary outcomes, which include employment, post-secondary education, independent living, and community integration (National Transition Network, 1997; Wagner et al., 1991). Another study found fewer than half of students with disabilities were employed full time two years following their high school graduation (Wagner, et al, 1991). In addition, Blackorby and Wagner (1996) found that African-American and Hispanic students with disabilities earned less in wages and had even more difficulty finding employment when compared to Anglo students with disabilities.

Less favorable outcomes occurred in studies of post-secondary education and students with disabilities. Students with learning disabilities often make inappropriate career decisions because they do not realize how

their own personal interests and characteristics fit into the career decision profile (Jagger, Neukrug, & McAuliffe, 1992). The original National Longitudinal Transition Study (NLTS) concluded that only 22.5% of students with disabilities access post-secondary education compared with 56% of the general population (Wagner et al., 1991). However, more recent research shows improvements in that 31% of students with disabilities access post-secondary education within two years of leaving high school (Newman, 2005).

As part of transition-focused research in the past decade, different strategies were considered to determine how to maximize benefits to students with disabilities. These specific strategies are now critical in ensuring optimal results for transition planning. One of the most promising is the use of self-determination and maximizing student-centered planning.

### *Student-Centered Planning through Self-Determination*

For best practice in transition planning, the focus must remain on the student, keeping the personal goals of the student in mind, as indicated in IDEA 2004. Including the student in all decision-making required in transition planning enables his or her plan to be more meaningful (Wehmeyer, 1998). In fact Thoma (1997) found that a student who implemented his or her own transition plan achieved a higher employment rate after high school and experienced a more independent living setting away from parental homes. Self-determination is defined as being the primary agent who makes decisions and causes things to happen in one's life (Wehmeyer, 1997). In terms of self-determination, Wehmeyer and Schwartz (1997) concluded that adults who expressed higher self-determination achieved

higher post-secondary outcomes than individuals with lower skills in self-determination.

In recent years, self-advocacy and self-determination have been used to help foster students' participation in student-centered planning. Past research clearly shows that students who have been shown self-determination skills speak up more during transition planning meetings than students who have not been taught self-determination strategies (Wehmeyer, 1997). However, learning the aspects of self-determined behavior takes time. These skills must be taught gradually, starting at a young age. As the student matures, greater responsibility and expectations may be placed on the student (Morningstar, Kleinhammer-Tramill, & Lattin, 1999). For instance, the student can attend the first transition planning meeting and offer input regarding transition goals. However, students should be leading the meeting and guiding all decisions by his or her senior year in high school. Several curricula have been developed based on research to teach students with disabilities self-determination and self-advocacy skills. Examples of these models are *Steps to Self-Determination* (Hoffman & Field, 2005), *Next S.T.E.P.S.* (Halpern, Herr, & Doren, 2000), and *Choicemaker* (Martin et al., 1996).

For student-centered planning to reach its full potential for developing student dreams and goals, students must learn to fully participate in transition planning process. Student involvement in education planning through Individualized Education Plans (IEP) is critical to develop decision-making and other self-determination skills (Martin, Huber Marshall, & DePry, 2001). Johnson et al. (2002) spoke to the importance of improving student atten-

dance at meetings in order to facilitate participation. It is important to note that student participation can occur through different forms. Participation may range from active, which includes leading one's own meeting, to limited, such as actively speaking during the meeting, to absent, which involves being present in the room but providing no information. One way to maximize active participation is to limit the number of participants in the meeting based on the student's desires. Finally, use careful consideration in inviting members to a meeting who are not strong supports for the student (Whitney-Thomas, Shaw, Honey, & Butterworth, 1998).

The field currently knows of the benefits to students to providing opportunities to increase self-determined behavior (Wehmeyer, Agran, & Hughes, 1998) and in allowing students' active participation within their IEP meetings. In addition, research indicates that students are often unclear as to the purpose of educational planning meetings (Martin, Huber Marshall, & Sale, 2004). However, educators need to learn as much as possible in terms of what students know about transition planning so changes can be made within school programs. The purpose of this research is to determine what knowledge students have in terms of transition planning and how students perceive the role of school personnel in their transition planning.

## Method

### *Setting*

The district studied was located in a mid-sized city in Texas. The district served one large high school, whose population mimics the city demographics. The ethnic makeup of the district was 39.9% Anglo, 34.8% Hispanic, 24.6% African Ameri-

can, and 0.7% other. This high school served 3,695 students and 15.4% of these students received special education services. In addition, 51% of the high school population was considered economically disadvantaged.

### *Instrumentation*

The participants completed a ten-question survey requesting student knowledge of and opinions of the transition planning process that was utilized at the high school. The survey was created based on best-practice research in transition planning and addressed the four areas of employment, post-secondary education, independent living, and community integration (National Transition Network, 1997; Wagner et al., 1991). In order to ensure valid results from the survey, the items were first reviewed by university faculty and then field tested by five students served in special education at the high school of interest.

After the administration of the field test, the language of the survey was altered to avoid technical education language, and the format was changed to include a different likert scaling. The resulting survey consisted of the following breakdown. The first two questions of the survey dealt with the purpose and timing of transition planning. The third question was divided into four sub-parts dealing with mandatory information on the transition plan. This specifically asked the students their desires for (1) employment, (2) post-secondary education, (3) independent living, and (4) recreation and leisure. Questions four through nine included likert-scaled items placed on a four-point scale ranging from disagreeing strongly to agreeing strongly. These questions addressed students' comfort levels with the transition process, adult service providers, parental input, and their overall opin-

ion regarding how the school had prepared students in terms of their transition plan and the future. Question ten allowed for an open response in which students could provide feedback for professionals.

### *Procedure*

A list of all students receiving special education services was obtained through the high school special education coordinator. Non-verbal students, students with insufficient verbal skills, students with severe multiple disabilities, and those students surveyed in the field test were eliminated from the survey pool. Later, students whose primary disabling condition was auditory impairment were eliminated due to translation and interpretation consistency between English and American Sign Language. One hundred names were chosen at random to comprise the study sample.

The survey took roughly five minutes to administer verbally with students. The researcher interviewed students individually to allow for the same feedback and clarification to be given to all students if questions arose during the survey administration. All questions were read and the researcher recorded answers to try to eliminate non-response and error due to students not being able to answer the questions. The greatest problem during survey administration was the inability to locate students for the following reasons: (a) students were placed in alternative settings, (b) students were truant, and (c) students were absent due to illness. If after three attempts to locate a student on different days and through different courses proved unsuccessful, a new name was randomly chosen from the original list of students. An additional 24 students were chosen to achieve the sample size of 100. However

due to students returning from alternative placements and to illness during the administration of the survey, a total of 103 students were surveyed. After all surveys were completed, the names were listed numerically based on the order drawn. Every ninth student was selected to compare the student's actual transition plan to the student's survey responses. A total of 11 plans were analyzed. If a student's transition plan was not able to be located, the next number on the list was selected.

Table 1 indicates the gender, ethnicity, grade level distribution, and primary disabling condition categories of the sample students surveyed. Tables 2 and 3 compare the survey sample distribution to the actual school special education population percentages. In terms of ethnicity and grade-level, the survey sampled a higher percentage of Hispanic students (38% vs. 34%) and twelfth-grade students when compared to the same population (18.5% vs. 15.8%) than were represented in the school special education population. The survey sampled a lower percentage of Anglo students than were found in the special education population (22% vs. 25%). However, for gender, African-American student, and grade levels 9-11, the survey sampled numbers reflective of the special education population. In terms of disability categories, the survey sampled six out of the eleven disabling condition represented at the high school. The unrepresented populations had fewer than three students served under that disabling condition within the school, with the exception of auditory impairment.

### **Survey Question Results and Discussions**

Results of the survey are presented below according to questions asked. Also included are

the discussions specific to the individual survey items.

**QUESTION 1: THE DATE OF MY LAST TRANSITION PLANNING MEETING WAS....**  
An overwhelming 83.5% of the students surveyed could not respond to this item. Thirteen students asked the interviewer if this was part of the annual IEP meeting. The interviewer responded to this question stating that transition planning is required for all students ages 16 and up and may have been part of the IEP. Eleven of these students then responded with a question asking whether the transition planning meeting was done at the same time as the annual IEP meeting. The interviewer replied telling students that the transition planning meeting may have occurred at the same time as the IEP meeting. These 11 students all knew the date for the transition planning meeting based on their recollections of the annual IEP meeting. Only six (5.8%) students or knew the date of their transition planning meeting without asking about

the annual IEP meeting. Responses were coded as knowing the answer to this question if the student provided the correct month of his/her last transition planning meeting.

**QUESTION 2: WHAT IS THE PURPOSE OF A TRANSITION PLAN?**

Only 10.7% of the students interviewed knew the purpose of a transition plan. A typical response was "a plan talking about what I am doing after high school" or "the paper stating I am going to a post-secondary school to study a particular field." An additional 13.4% of the students surveyed attempted to answer the question, but with an incorrect answer. All of the incorrect answers related to items found in an annual IEP meeting, such as progress made in courses, schedules for the upcoming year, and discipline concerns. Unfortunately, 74.9% of the students stated they did not know the purpose of a transition plan and did not attempt to answer the question.

When considering both questions 1 and 2 simulta-

neously, only three students knew both the date of and purpose of their transition plan, while 74.8% of the students did not know the answer to either question. These results indicate that students at this high school were generally uninformed about the transition process. As a whole, these students did not appear to differentiate between their annual IEP meeting and their transition plan. In addition, the students did not appear to understand the planning importance that the transition plan established.

**QUESTION 3: WHAT ARE YOUR PERSONAL GOALS FOR YOUR TRANSITION PLAN IN THE AREAS OF EMPLOYMENT, POSTSECONDARY EDUCATION, INDEPENDENT LIVING, AND RECREATION/LEISURE?**  
Question 3 targeted students' interests and preferences for their individual transition plan and then compared these answers to the actual transition plan to ensure student desires were being recorded. The actual number of transition plans examined was only 10% of the sampled population. If the student response matched the written goal on the transition plan, a score of one was given; if the student response did not match the transition plan goal, a score of two was given. While searching for the original 11 transition plans, six documents could not be located. Therefore the next student on the list was selected. The documents examined were written two to ten months prior to the survey being administered.

#### *EMPLOYMENT GOALS*

Approximately half (54.5%) of the transition plans described the career choice of the student. For instance, the transition plan stated a specific field or career interest such as nursing. Another 18% of the transition planning documents provided vague responses such as the student would obtain a job with no specific career aspirations

Table 1

#### Descriptive Summary of Surveyed Students by Gender, Ethnicity, and Grade Level

Demographic Category	N	Percentage
<b>Gender</b>		
Male	62	60.2%
Female	41	39.8%
<b>Ethnicity</b>		
African-American	41	39.8%
Anglo	23	22.3%
Hispanic	39	37.9%
<b>Grade Level</b>		
Ninth Grade	47	45.6%
Tenth Grade	23	22.3%
Eleventh Grade	14	13.6%
Twelfth Grade	19	18.5%
<b>Disability Category</b>		
Other health impairment	2	1.9%
Intellectual Disability	9	8.7%
Emotional Disturbance	7	6.8%
Learning Disability	82	79.6%
Speech Impairment	1	1%
Autism/PDD	2	1.9%

Table 2

Comparison between the High School Special Education Population and Sample for Gender, Ethnicity, and Grade Level

Demographic Category	Special Education Population	Special Education Sample
Gender		
Male	61%	60.2%
Female	39%	39.8%
Ethnicity		
African-American	40.7%	39.8%
Anglo	25.4%	22.3%
Hispanic	33.9%	37.9%
Grade Level		
Ninth Grade	47.5%	45.6%
Tenth Grade	22.5%	22.3%
Eleventh Grade	14.0%	13.6%
Twelfth Grade	15.8%	18.5%

Table 3

Comparison between the High School Special Education Population and Sample for Disability Category

Disability Category	Special Education Population	Special Education Sample
Other Health Impairment	4.3%	1.9%
Mental Retardation	8.0%	8.7%
Emotional Disturbance	5.1%	6.8%
Learning Disability	77.0%	79.6%
Speech Impairment	0.5%	1.0%
Autism/PPD	1.1%	1.9%

specified. Some discrepancy may be related to students choosing different career fields since their transition plans were written. However, vague responses about career choices are not in the spirit of transition planning.

POST-SECONDARY EDUCATION GOALS

During the interview process, some students provided very specific answers, such as naming a particular post-secondary school. This specific information was not required for a match between the actual transition plan and results from the student survey. A match occurred when the transition plan indicated the particular type of post-secondary institution reported by the student, such as four-year college, community

college, technical college, etc. The majority (81.8%) of the transition planning documents matched the student responses.

INDEPENDENT LIVING GOALS

Several students reported that they intended to live at home or in a college dormitory immediately after high school, but then move to an independent living arrangement. If the student reported both a short-term and long-term response, both answers were also expected on the actual transition plan. Only 45.5% of the student responses matched the transition planning document. Many documents indicated the student would live independently with no other information provided, such as a time frame.

RECREATION AND LEISURE GOALS

When reporting on these goals, students were expected to name a form of recreation other than “hanging out with friends.” Some typical answers included swimming, playing basketball, dancing, sewing, etc. However, only 36% of the actual transition planning documents examined listed any specific recreational/leisure activities. The remaining 63.6% listed vague responses such as, “independent” or “does activity on own”.

Overall, 55% of the transition plan indicators matched student responses, while 45% did not. Table 4 depicts this information in greater detail. As mentioned above, while some discrepancy might be attributed to students changing their choices, 34% of the items examined on the actual transition plans had such a vague response that the interest of the student could not be determined.

QUESTION 4: I BELIEVE MY INPUT WAS VALUED IN WRITING MY TRANSITION PLAN. When asking students about this statement, it was always followed with the sub-question “Do you feel your teachers listened to what you wanted before writing your transition plan?” This comment helped clarify concern or confusion for the student.

Most students agreed that their input was valued in writing the transition planning document. The mean response was 2.76 with a standard deviation of 0.45. Table 5 provides the numerical breakdown of the responses. The results indicate that the majority of students felt that teachers listened to them. It is interesting to note that no student strongly agreed with the question.

QUESTION 5: I ACTIVELY PARTICIPATED IN MY TRANSITION PLANNING MEETING.

This statement was further clarified, if necessary, by asking students if they spoke during their transition planning

meeting as opposed to allowing the teacher do all the speaking. Most students again agreed with the statement; the average score was 2.64 with a standard deviation of 0.54. Table 5 provides a numerical breakdown of the student answers. Although 61.1% of the students reported that they spoke during their transition planning meetings, only 1.9% of the students actually led their transition planning meeting. It is important to note that 35.9% of the students never even spoke during their meeting. In addition, it is unclear what other forms of active participation, if any, occurred during transition meetings.

When considering questions 4 and 5 simultaneously, only 1% of students felt teachers always listened to them and 22% of students felt that teachers did not consider their preferences when writing the plan. A transition plan is based on student desires and dreams and all teachers should listen to student choice. Students need practice in advocating for themselves, and participating in discussions surrounding transition planning provides an excellent beginning. Unfortunately, only 1.9% of the surveyed students led their own transition planning meeting. Teachers need to encourage students to lead the discussion.

**QUESTION 6: I FEEL COMFORTABLE WITH THE ADULT SERVICE PROVIDERS AND THEIR ROLES IN MY TRANSITION PROCESS.**

The most common response was "2," or disagree (n=70), with the average score being 2.2 with a standard deviation of 0.60 (See Table 5). A large number of students (72.8%) interviewed could not name an adult service provider on their own. Adult service providers play a critical role in the transition process and students must be educated about their roles. During this survey only 2.9% of the students knew the purpose of an adult service provider. This may indicate a lack of student preparation and instruction on the types and purposes of adult service providers. This may indicate a major deficiency in the current transition program. In order for students to receive maximum benefits from adult service providers, they must first understand who the adult service providers are and the services provided; 97% of the students could not do this.

**QUESTION 7: I FEEL THAT MY PARENT(S)/ GUARDIAN(S) WERE CONSULTED IN THE TRANSITION PLANNING PROCESS AND THEIR INPUT WAS VALUED.**

Table 5 includes response data to item seven. The most frequent response was "3" indicating agreement with the average response being 2.8 with a standard deviation of 0.42. It was found that 81.6% of the parents were in attendance at the tran-

sition planning meeting, according to the students. Only 1.9% of the students felt his/her parents were contacted prior to the meeting. Both of the students who believed their parents were contacted prior to the meeting were students with intellectual disability. This possibly indicated that students with other disabilities, such as learning disabilities, did not feel their parents were consulted prior to the meeting.

This survey results indicate that the majority of parents received no communication from the teaching staff prior to the transition planning meeting. The vast majority, 98% reported no contact with parents in regards to transition planning and the families' dreams and desires prior to the meeting. This goes against the spirit of transition planning, where the law advocates for parent input.

**QUESTION 8: I HAVE MADE PROGRESS IN TEACHING MY TRANSITION GOALS.**

The purpose of this question was to see if students believed they were reaching their personal goals of working towards independence. The mode was 3 (n=77) which indicated students believed they were making some progress. The average score was 2.8 with a standard deviation was 0.51. The majority, 79.6%, of students felt they were making progress towards their transition goals. Further

Table 4

Summary of Results for Employment, Post-Secondary Education, Independent Living, and Recreation and Leisure

Post-secondary Outcome	% Matched Transition Plan	% Non-matched Transition Plan	% Vague Responses
Employment	54.5%	45.5%	18.2%
Post-secondary Education	81.8%	18.2%	18.2%
Independent Living	45.5%	54.5%	45.5%
Recreation and Leisure	36.4%	63.6%	63.6%

Table 5  
Results to Questions 4 - 9

Response to Scale	% Answered
<b>Results to Question 4</b>	
Strongly agree: Teacher always respected student response (n=0)	0%
Agree: Teacher listened to student response (n=79)	77%
Disagree: Teacher did not consider student response (n=23)	22%
Strongly disagree: Teacher did not ask for student response (n=1)	1%
<b>Results to Question 5</b>	
Strongly agree: Student lead the meeting (n=2)	2%
Agree: Student present and spoke in meeting (n=63)	61%
Disagree: Student present but did not speak in meeting (n=37)	36%
Strongly disagree: Student not present in meeting (n=1)	1%
<b>Results to Question 6</b>	
Strongly agree: Student knew the name and purpose of adult service provider (n=3)	3%
Agree: Student could name adult service provider (n=24)	23%
Disagree: Student could not name adult service provider, recognized from list (n=70)	68%
Strongly disagree: Student did not recognize adult service provider (n=6)	6%
<b>Results to Question 7</b>	
Strongly agree: Student reported parent attendance & communication w/ teacher (n=2)	2%
Agree: Student reported parents in attendance but little communication (n=82)	80%
Disagree: Student reported parents not in attendance (n=19)	18%
Strongly disagree: Student felt school made no effort (n=0)	0%
<b>Results to Question 8</b>	
Strongly agree: Student felt a lot of progress was made (n=5)	5%
Agree: Student felt some progress was made (n=77)	75%
Disagree: Student not sure if progress was made (n=20)	19%
Strongly disagree: Student felt no progress was made (n=1)	1%
<b>Results to Question 9</b>	
Strongly agree: Student felt high school helped with post-secondary goals (n=5)	5%
Agree: Student felt high school helped minimally with post-secondary goals (n=62)	60%
Disagree: Student felt high school helped only in terms of graduation (n=29)	28%
Strongly disagree: Student felt high school did not help with post-secondary goals (n=7)	7%

details can be seen in Table 5.

QUESTION 9: I BELIEVE THE CURRENT TRANSITION PROCESS AT MY HIGH SCHOOL HAS HELPED ME REACH MY TRANSITION GOALS.

Although very similar to item 8, item 9 specifically asks students if the activities and instruction within their high school had helped students reach their transition goals. It is possible in the previous question that the progress made was not a direct result of the involvement from high school personnel. The mode response of 3 indicated that students felt the high school personnel minimally helped with post-secondary

goals (n=62); the average was 2.6 with a standard deviation of 0.69. Interestingly, 6.8% of the students felt that school personnel were absolutely not involved with helping them reach transition goals. It is also interesting to note that out of the 5 students who strongly agreed that school personnel were helping them, two were students in the cosmetology program which provided students with both instruction and preparation hours to take state cosmetology exams, one student was in the auto mechanic program which again provided students with skills necessary to take state licensure exams, and two had

received college scholarships based upon athletics. Table 5 shows the breakdown of responses.

The combined results seen across items 8 and 9 add additional insight to the results. Interestingly, 15% fewer students felt that high school personnel were helping them reach their transition goals than felt overall progress was being made. During the survey 80% of students reported they felt progress on their transition goals but only 65% reported that there were educators who helped them. This seems to indicate that many students are preparing for life after high school with little or no help from school personnel.

QUESTION 10: I WOULD RECOMMEND THE FOLLOWING TO IMPROVE THE TRANSITION PLANNING PROCESS AT MY HIGH SCHOOL.

This item allowed for open-ended responses for students to give feedback to the high school in terms of suggestions to help prepare future students. While only 17.5% (n=18) of the students chose to respond to this question, the answers were often very similar. Roughly 24% of the comments were related to discipline. The students felt teachers should be less strict on the students in terms of classroom procedures. Another 24% of the answers requested more vocational classes or that students be allowed in the vocational courses; the specific courses listed included auto mechanics, cosmetology, and welding. These courses had limited enrollment and therefore students were required to complete an application process and be selected to participate. Another common theme was that students reported that teachers tended to talk more and not genuinely listen to what students were requesting; Almost 30% of the students wanted teachers to really listen. The final 30% of the comments were requests for teachers to help and guide students into career choices. Students said that although teachers asked students their career ambitions, teachers did not give advice or guidance in helping students choose career fields by presenting different types of jobs.

### Limitations

Although roughly 18% of the students served through special education were surveyed, only 11% of the actual transition plans were examined. The results to question 3 were based upon roughly 2% of the students served through special education at the high school and a

great deal of variability could exist. In addition, this survey was based upon students who were present at school. No effort was made to find students who were truant or in alternative education placements, such as homebound or the juvenile detention center. Finally, although the percentages of individual students based on gender, ethnicity, grade level, and primary disability category were determined; the data was not analyzed based on these factors. It is possible that a great deal of variants may be found based upon these indicators. Unfortunately, socio-economic categories were not considered.

Another limitation of this study was that only student responses were collected. Additionally, student responses were based on their memory of transition/IEP meetings which could have occurred almost a year previously. Teachers were not interviewed and school policy was not examined regarding transition planning. This additional information could help better determine situations such as the amount of parental input solicited and whether or not information regarding adult service providers was supplied.

This study only interviewed students from one high school; therefore, it is just one sample of perceptions of high school students and is certainly not generalizable even to the state in which it occurred. However, looking at the perceptions of students in this high school may cause educators to wonder what the perceptions of their own students are and should encourage all to look at transition practices and make sure that students are well informed and involved in planning their transition from school to adult life.

### Summary and Recommendations

The transition process is critical to assuring the success of students served through special education services. In order to ensure this process is working, both the teachers and the students involved need to understand the purpose of transition planning and to be educated on best practice surrounding transition planning. The results of this study indicate that in this high school there were areas that needed improvement in the current transition process. The primary step in creating effective transition planning is to fully educate teachers on the transition process. Teachers must not only hear the legal requirements but also be convinced of its importance in predicting and guiding post-secondary success of the students. Teachers who do not understand transition planning are less effective in ensuring that the students receive the maximum benefits resulting from the transition plan. Teachers must also include the power of self-determination and respecting student choice for the student.

In addition to providing training in transition planning to high school teachers, administrators need to provide them with the time they need to work individually with students and their families in transition planning. Results of this study indicate that students want more guidance and assistance from their teachers, but often high school teachers have very large case loads and minimal time to devote to individual student counseling and individually meeting with families. Effective transition planning takes time, and that is a luxury many high school teachers do not have.

Additionally, a strong working relationship must be estab-

lished between the high school and the local adult service providers. Teachers must understand the importance of adult service providers and their role in the transition planning process and not see merely inviting the agencies as a legal requirement. Students and their families, if self-determination is truly a goal, also need to be better educated on adult agencies and the services they provide. Students in this high school were very lacking in information regarding adult agencies in their community. Students and families need to become acquainted with these agencies and to realize the importance of registering early and staying in touch with the adult service provider, especially when long waiting lists exist for many services.

The important factor to remember is that every student deserves to reach his or her maximum potential regardless of ability level. Schools should strive to provide every student with the support and services to help the child reach that level. Effective transition planning is one avenue to ensure this occurs.

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## Employment Status of Individuals with Disabilities

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### Abstract

*A non-experimental design was used to investigate the relationship of the Test of Adult Basic Education (TABE) scores to employment status. Groups were comprised of individuals with disabilities who were either employed or not employed immediately following their taking of the TABE and being released from a testing and employment services center in southeast Alabama. Data for 71 individuals were analyzed to create a model to predict employment status of individuals with physical disabilities based on gender, race, age, and scores on the TABE. Logit and probit analyses were conducted and the Akaike Information Criterion was used to select the best model. Results revealed a significant interactive effect of gender and spelling and gender on the response, employment. Non-Caucasians were hired more often than Caucasians.*

### Introduction

The Americans with Disabilities Act (ADA) 1990 mandates that individuals with disabilities shall not be subject to discrimination based on their disabilities. According to the ADA, individuals with disabilities are those who have a physical or mental impairment that substantially limits one or more major life activities such as walking, seeing, hearing, learning, or working. The intent of the law is to assure that individuals with disabilities have equal access in areas such as employment, housing, transportation, and public accommodations (Americans with Disabilities Act, 1990). Title I requires employers with 15 or more employees to provide qualified individuals with disabilities an equal opportunity to benefit from the full range of employment-related opportunities available to others. In addition, Section 503 of the Rehabilitation Act of 1973 requires employers with federal contracts or subcontracts that exceed \$10,000 to take affirmative steps to hire, retain, and promote qualified individuals with disabilities. The regulations implementing Section 503 require that affirmative steps should be taken to refrain from discrimination against qualified individuals with disabilities in employment and that services be provided to promote independent living in the community (Huefner, 2000). In 1990, Congress found that more than 43 million Americans have one or more physical or mental disabilities.

On a national level, three out of ten individuals from ages 18 to 64 with disabilities are employed either full or part time compared to eight out of ten

adults without disabilities, and people with slight disabilities are eight times more likely to be employed than people with severe disabilities (National Organization on Disability, 2001).

The unemployment rate for people with disabilities living in Alabama is over 70%, and 72% of working age people with disabilities say they would like to work. This is consistent with national figures. Consequently, people with disabilities often live at or below poverty level: 34% live in household incomes with less than \$15,000 annual income, compared to 12% of those without disabilities (Alabamians with Disabilities Act, 2003). The Alabama Disabilities Action Coalition reported that there are more than 945,000 people with disabilities who live in Alabama. Approximately one-half of Alabamians 65 years of age and older reported having some type of disability in 2000. These disabilities included blindness, deafness, severe vision or hearing impairment; difficulty performing physical activities, such as walking, difficulty learning, remembering, or concentrating, etc. For the 21 to 64 year old population, 23.2% had some type of disability.

Employer attitudes toward hiring individuals with disabilities tend to vary depending on individual definitions of attitudes, specific types of disabilities, and perceived cause of the disability (Bordieri, Drehmer, and Taricone, 1990). Regardless of the type of disability, individuals who were seen as personally responsible for their disability received lower hiring recommendations than those whose disabilities were attributed to some external factors. Results of a study by Bordieri, Drehmer,

and Taylor (1997) indicated that job candidates with depression or obesity were evaluated more negatively than equally-qualified non-disabled job candidates. Overall, employers view workers with physical disabilities more favorably than those with mental disabilities (Scheid, 1999). Employers tend to respond positively to general statements about hiring individuals with disabilities. Typically employers agree that all individuals should have equal opportunity for employment; however, their behavior is not consistent with this view. They do not respond as positively to actually hiring individuals with disabilities (Hernandez, Keys, Balcazar, 2000). Hotchkiss (2004) collected demographic and employment data for the months of March, April, May, and June from 1981 through 2000. She found that individuals with disabilities tended to be slightly older, have lower education levels, and feel less attachment to the labor market than their counterparts without disabilities. Only 28 percent of 69,906 individuals with disabilities were employed compared to 79% of 972,161 individuals without disabilities. Kennedy and Olney (2001) reported:

During the five-year period immediately following the passage of the ADA. . . An estimated 748,000 were refused employment, 402,000 were refused a promotion, and 245,000 were denied a transfer, and 227,000 were refused access to training programs due to an ongoing health problem, impairment, or disability. (p. 4)

Discrimination in the job market is a major problem for males with disabilities (Baldwin & Johnson, 2000). From 1990 when ADA was passed until 1995, employment of men with disabilities was 7.2 percentage

points lower than before 1990 (DeLeire, 2000). Passage of the ADA could be viewed by employers as legislation that potentially increases the cost of hiring individuals with disabilities because the law requires that employers make reasonable accommodations for these workers (Hotchkiss, 2004).

Some barriers to employment such as limited expectations or fear of failure may be self-imposed (Cheek, 2003). Lack of awareness of assistive technology, funding and access, and expertise on how to use the technology pose other barriers (Butler, Crudden, Sansing, & LeJeune, 2002). Crudden, Williams, McBroom, and Moore (2002) confirmed earlier studies by Ferber and Birnbaum (1981) and Hollingsworth and Pease (1980) that poor employment preparation is another barrier to successful employment for women. Ferber and Birnbaum (1981) suggested that education and training were viable paths to employment only if the education were focused on skills appropriate for a specific job group. More than two decades ago, Hollingsworth and Mastroberti (1983) recommended job or skill training be a part of a comprehensive program to assist women with disabilities to obtain and maintain successful employment.

Literature and research related specifically to employment of individuals with physical disabilities based on their academic skills are scant; however, individuals with disabilities need the same kinds of basic employability skills as those without disabilities (delivering embedded basic skills with disabled people, n.d.). Sherer and Eadie (1987) define employability skills as those skills applicable to all jobs, regardless of the industry or specific job. Davis and Miller (1996) reported that

job restructuring and diversity in the workplace require effective communication skills and knowledge of group processes, as well as other basic skills critical to employment success. Sanchez (2003) projected increasing social inequities in the 21<sup>st</sup> century and a need for individuals to work and communicate effectively as part of a team, a community, and a society. Also, he proposed that employees' knowledge, experiences, and attitudes are important to competitive employment. Results of a survey conducted by DeMario, Rex, and Morreau (1990) revealed that personal-social skills were ranked highest in a list of 32 employability skills for individuals with visual disabilities.

A comprehensive list of desirable entry-level employability skills were identified in a report released in 1991 by the Secretary's Commission on Achieving Necessary Skills (SCANS). Along with academic skills, the SCANS report included resource management, thinking skills, organizational skills, information management, personal qualities, and interpersonal skills as critical competencies necessary for entry-level employment. Martin and Wright (2007) emphasized the acquisition of basic academic skills as prerequisite to vocational training or employment. Busse (1992) observed that employers want employees who have not only the basic reading, writing, and arithmetic skills, but also effective communication skills and working in groups. Pont and Werquin (2001) reported that basic skills, with emphasis on reading and writing, are prerequisite competencies to successful employment in a global and electronic, knowledge-based economy of the 21<sup>st</sup> century.

## Statement of the Problem

The lack of information related to employment of individuals with physical disabilities based on their academic background provided the genesis for this study. Specifically, this study investigated the reading, mathematical computation, applied mathematics, language, and spelling as important for obtaining employment. Martin, Curtis, and Shipp (2007) observed that assessment of basic academic achievement is an important component of the total assessment process for job readiness and independent living.

### *Potential Significance of this Study*

The Test of Adult Basic Education (TABE) is an achievement test “. . . designed to measure achievement of basic skills commonly found in adult basic education curricula and taught in high school and adult instructional programs” (CTB McGraw-Hill, 1996, p.1). If the results indicate that the TABE scores influence whether or not a person is employed, then the potential significance of this project is that those educators, evaluators, and counselors preparing these individuals for employment may be able to enhance individual education programs to better prepare these individuals for employment. On the other hand, if results indicate that TABE scores do not predict employment status, then the significance of this project will inform educators, evaluators, and counselors that there may be other variables such as personality, work ethic, and initiative that are associated with employment status.

A licensed vocational rehabilitation counselor administers the test to an individual or to a group. The complete battery consists of five subscales that measure an individual's achieve-

ment in the following areas: (1) reading, (2) mathematics computation, (3) applied mathematics, (4) language, and (5) spelling. Results for the TABE may be reported by grade equivalency, raw score, or scale score. Subscales for the TABE and the respective competencies measured are displayed in Table 1.

Content-related validity (correspondence between test content and instructional content) of the TABE was established by CTB/McGraw-Hill developers by the use of information obtained through a comprehensive curriculum review and meetings with educational experts to identify common educational goals and corresponding knowledge and skills. Patterns of intercorrelations between the TABE and other as-

sessments demonstrated convergent and divergent validity. For example, the Language subtest correlates highly with the Reading subtest as would be expected; while its correlations with the Mathematics subtests are lower (CTB McGraw-Hill, 1996, p.1). Reliability was established using the Kuder-Richardson KR20 formula. Internal consistency indexes were calculated for each of the five levels of the TABE: L (Literacy); E (Easy); M (Medium); D (Difficult); and A (Advanced). The KR20 indexes ranged from .81 to .96 (CTB McGraw-Hill, 1996, p. 34-35). The scale score is the basic score for TABE. Scale scores are units of a single, equal-interval scale that is applied across all levels of the TABE. Scale scores range from

Table 1  
Subscales and Skills Measured by the  
Test of Adult Basic Education

Subscale	Skills measured
Reading	Construction of meaning; embedded vocabulary words; diagrams, charts, map; find and use reference sources
Mathematical Computation	Addition, subtraction, multiplication, and division of whole numbers, decimals, and fractions; integers; algebraic expressions; exponents; percents (Calculators not permitted)
Applied Mathematics	Apply wide range of mathematical skills, methods, and concepts such as budgeting, planning, prediction, and interpreting data (Calculators optional)
Language	Grammar, mechanics, sentence formation, paragraph development
Spelling	Commonly misspelled and commonly used words related to real-life situations

0 to 999 (CTB McGraw-Hill, 1995, p. 2). The equal-interval property of the scale makes scale scores especially appropriate for various statistical purposes because these scores can be added, subtracted, and averaged across test levels. Such computations permit direct comparisons among classes, schools, or entire districts (CTB McGraw-Hill, 1995, p.2).

### *Setting for the Study*

The Achievement Center-Easter Seal is a non-profit community rehabilitation facility owned and operated by a county Chapter of Alabama Easter Seal Society in South-East Alabama. The mission of the Center is to provide employment readiness programs and independent living skills for physically, mentally, and developmentally disabled individuals; The Center provides basic testing (academic and skills), education and job preparation, and job placement services to individuals (consumers) who are referred by their vocational or rehabilitation counselor. Most adults referred to the Center will be administered the Test of Adult Basic Education (TABE) or some other test(s). TABE scores give an indication of an individual's grade level of functioning in areas such as reading, language, and mathematics. These kinds of basic skills are essential to gainful employment.

This was a retrospective study using two groups. The researcher collected test scores and employment data from the consumers' files which were collected by the Achievement Center from 1999-2003. The purpose of this study was to create a model to predict employment status of individuals with physical disabilities based on individuals' gender, race, age, and scores on the Test of Adult Basic Education (TABE). Specifically, the purpose was to dis-

criminate between cases who were employed and those who were not employed after exiting the Achievement Center. Expected outcomes were that those individuals with higher scores on the TABE may be employed more often than those with lower scores on the TABE.

## **Methodology**

### *Sample*

The sample for this study was 71 adults with physical disabilities who had received testing and employment services between 1999 and 2003 at the Achievement Center—Easter Seal. There were 34 females and 37 males in the sample; 32 of Caucasian decent and 39 of non-Caucasian decent (35 African American, 1 Asian American, 1 Hispanic, 2 American Indian); 38 individuals were employed and 33 were not employed. Of those who were employed, 21 were females and 17 were males. The county in which the subjects reside is rural and suburban, with a 2005 population slightly more than 123,000. In 2003, the median household income for the county was \$33,408. Residents are predominately of Caucasian decent (74%) with 23% being of African American decent, and the remaining residents being of American Indian, Pacific Islander, Hispanic, or Asian decent (U. S. Census Bureau, n.d.). There are two urban areas in the county: the county seat which has a population of approximately 25,000 and an adjacent city of approximately 48,000, which includes the largest university in the state with an enrollment of more than 23,000.

All of the subjects participating in this study had been diagnosed by a bona fide physician as having a physical disability. There was a variety of disabilities among the subjects, ranging from disabilities such as

lung disease, heart condition, cerebral palsy, and back pain to hearing loss and visual impairments. The ages of the subjects at the time of testing ranged from 19 to 62 (median = 40 years). All of the subjects had completed the TABE, received job counseling, and had exited the Center to start a job or to seek employment.

### **Procedures**

Individual files of consumers at the Achievement Center were reviewed to identify adults with physical disabilities who had taken the TABE. These individuals were grouped into one group or another (employed/not employed) based on their employment status. The researchers recorded demographic data [gender, race, age, disability, and level of TABE taken (TABE has 4 levels of difficulty)] for these consumers and identified the Form of TABE completed (Form 5 or Form 7). Grade Level for each subject on each subscale of the TABE was recorded. Next, the researchers consulted the Norms Book for Forms 5 and 6 to convert Grade Level to Number Correct (Example: for Level D for vocabulary, the Grade Level is 8.0, refer to Table 25, Page 54 in Norms Book, and the Number Correct is 20 out of 30 possible) (CTB McGraw-Hill, 1990). Also, the Norms Book for Forms 5 and 6 was consulted to convert Number Correct to Scale Score (Example: for Level D for Vocabulary, the Scale Score for 20 correct is 752 as found on Table 5, Page 16). Then, the average of the Scale Scores for Vocabulary and Comprehension to yield one Scale Score for Reading; the average of the Scale Scores for Language Mechanics and Language Expression were calculated to yield one Scale Score for Language—this was done to be in keeping with the subscales

as reported for Form 7. (Example: For Scale Score 752 for Vocabulary and Scale Score 754 for Comprehension, the Reading Scale Score is 753 as verified by Table 13, Page 31 in the Norms Book for Forms 5 and 6). The same procedure as noted in steps 7 and 8 were used for Form 7 using the Norms Book for Forms 7 and 8. Finally, the researchers consulted the Linking Table to link the Scale Scores for Form 5 to the Scale Scores for Form 7. This was necessary because some of the subjects took Form 5 of the TABE and some took Form 7. The level of the TABE is not a factor in this conversion, only the Form is important. (Example: A Scale Score of 753 for Reading on the Form 5 is converted to a Scale Score of 531 on the Form 7—See Page 8 of the Linking Table). The scores on the TABE for these individual consumers were analyzed using logistic regression analysis procedures to identify relationships among the independent variables (age, gender, race, scores on the TABE, and employment status).

### Statistical Procedures Used

Scale Scores were entered into an Excel data base for analysis using the R program. Binary logistic regression procedures were performed to classify individuals into one of two groups (employed/not employed) on the basis of their gender, race, age, and Scale Scores on the five subscales of the TABE. Logistic regression is an appropriate procedure to use to predict a categorical outcome (dependent variable) (Ramsey & Schafer, 2002). The logistic regression procedure may be used for a mix of categorical and continuous independent variables. The response variable for this study is binary, with values of 0 or 1. Two of the explanatory variables are categorical (gender and

race), and the remaining six explanatory variables (age, and five different scores on the TABE) are numerical. Binary logistic regression procedures were used to analyze the data. First, the full model was analyzed using all of the variables (age, gender, race, reading, mathematical computation, applied mathematics, language, and spelling) in the model. We referred to this model as Model A. As a dimension reduction measure, the first principle component of test scores was taken as the combined test score. We called this Model B. The first principle component was scaled by dividing it by its standard deviation. This variable represents total achievement. The analysis was then conducted using the variables age, gender, race, and total achievement.

The researchers also applied the probit regression model. The results were the same as with logistic regression. In addition, interaction effects between variables in the study were checked, and model selection was performed on the basis of the Akaike Information Criterion (AIC) score of the models. The lower the AIC value, the better the fit of the model. The final model selected is referred to as Model C.

### Results of the Analysis

A summary of important findings is shown in Table 2. Race

was suggestive (p-value = .07) of being employed (non-Caucasians hired more often than Caucasians). No other significant results were found. The odds of a non-Caucasian being employed are almost three times greater for this group than for Caucasians. [Odds =  $(\delta / 1 - \delta) = \text{exponential}(-1.06) = .35$ ;  $1 / .35 = 2.9$ ]. Results for Model A are displayed in Table 3.

Results based on the dimension-reduced model (age, gender, race, and total achievement) again indicated that race (p-value = 0.11) was suggestive of whether or not a person was employed/not employed. None of the other variables were suggestive of whether or not a person was employed or not employed. Results for Model B are displayed in Table 4.

Results for the model selection performed on the basis of the AIC score indicated statistical significance for the interaction of gender and spelling (p = .036) and for gender (p = .036) on the response. More females than males were employed (21 compared to 17 respectively), and the mean score for females was higher on the spelling subscale than for males (747.41 compared to 740.78 respectively). Results for Model C are reported in Table 5.

### Conclusions

Using the AIC values to compare the logit and probit models, it was apparent that both of these models gave virtually the same

Table 2  
Summary of Important Findings

Variable	Model	Coefficient	Standard Error	z-statistic	Two-tailed p-value
race	A	-1.063	0.600	1.773	0.076
race	B	-0.857	0.546	-1.569	0.117
gender:spell	C	0.039	0.019	-2.093	0.036*

**Table 3**  
**Logistic Regression of Employment Status (Model A)**

Variable	Coefficient	Standard Error	z-statistic	Two-tailed p-value
Constant	4.467	4.794	0.932	0.351
gender	-0.103	0.600	-0.184	0.854
race	-1.063	0.600	1.773	0.076
age	-0.005	0.025	-0.206	0.837
reading	0.003	0.009	0.306	0.759
mathematical comprehension	0.000	0.009	0.017	0.987
applied mathematics	0.008	0.010	0.805	0.421
language	-0.005	0.010	-0.521	0.602
spelling	-0.0105	0.009	-1.138	0.255

(Dispersion parameter for binomial family taken to be 1) (AIC: 108.86)

**Table 4**  
**Logistic Regression of Employment Status (Model B)**

Variable	Coefficient	Standard Error	z-statistic	Two-tailed p-value
Constant	1.024	1.002	1.022	0.307
gender	0.156	0.516	0.302	0.763
race	-0.857	0.546	-1.569	0.117
age	-0.012	0.024	-0.518	0.604
total achievement	-0.079	0.262	-0.302	0.763

(Dispersion parameter for binomial family taken to be 1) (AIC: 104.13)

results. Model selection performed on the basis of the AIC values indicated a significant interaction between gender and spelling and gender on the response. Females are usually considered to be more verbal than males; thus the higher spelling scores might be expected. The interaction between gender and spelling on the response variable (employed/not employed) could be due to the ability of females to complete a job application more accurately than males; thus fe-

males may appear to be more desirable employees than males. The TABE assesses an individual's academic achievement only without regard for work habits, interpersonal skills, and attitudes toward work. However, scores on basic skills test may not be important because of the kinds of jobs that individuals were placed in (janitorial, fast foods, clerical). In other words, individuals were employed in low-paying jobs that do not require a very high level of basic academic skills. Basic

academic skills alone may not lead to gainful employment. Higher-order thinking skills required to think, reason, and make sound decisions are critical for employment (Alabama Cooperative Extension System, 2000). Results suggest that non-Caucasians are employed more often than Caucasians. This finding may indicate that non-Caucasians are more willing than Caucasians to assume some of the low-paying jobs, non-Caucasians have a stronger work ethic than Caucasians, or non-Caucasians need to work more so than Caucasians.

In addition, one might conclude that variables other than basic academic skills, such as attitudes toward work, people skills, work habits, and previous work experience may be better indicators of whether an individual was employed or not. The Secretary's Commission on Achieving Necessary Skills (1991) reported that personal qualities and interpersonal skills are critical competencies necessary for entry-level employment. Sanchez (2003) reported that an individual's knowledge of work, previous work experiences, and attitudes are important for employment. Employers value employees who have good personal attributes, respect themselves and others, come to work on time, dress appropriately, and work cooperatively as part of a team. Davis and Miller (1996) reported that knowledge of group processes and work teams are major competencies for successful employment. These skills are consistent with the personal-social skills proposed by DeMario, Rex, and Morreau (1990).

Employment of adults with disabilities continues to be a primary goal of vocational rehabilitation. Martin (2007) observed that primary goals of rehabilitation counselors are to prepare individuals for gainful employment and independent living. Testing, evaluation, and other special services such as those provided by the Achievement Center are aimed at preparing individuals with disabilities for employment. Although more individuals were employed (54%) than not employed (46%), the ratio of employed to not employed is not much greater than chance. Educational programs and rehabilitation services that facilitate the successful employment of adults will continue to be investigated in an effort to identify relevant factors that contribute to an individual's employment. Such factors may then be generalized and used in a variety of educational environments for adults with disabilities.

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Table 5  
Logistic Regression of Employment Status (Model C)

Variable	Coefficient	Standard Error	z-statistic	Two-tailed p-value
Intercept	-0.249	4.696	-0.053	0.958
race	-0.831	0.550	-1.512	0.131
gender	29.198	13.959	2.092	0.037*
spell	0.001	0.006	0.164	0.870
gender:spell	0.039	0.019	-2.093	0.036*

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Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
(Dispersion parameter for binomial family taken to be 1)  
Null deviance: 98.074 on 70 degrees of freedom  
Residual deviance: 86.602 on 66 degrees of freedom  
AIC: 96.602

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