ONLINE COMMUNITY BASED INSTRUCTION (CBI) TRAINING FOR 
PRE-SERVICE SPECIAL EDUCATION TEACHERS IN TURKEY

A Dissertation in 
Special Education

by
Muhammed A. Karal

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The dissertation of Muhammed A. Karal was reviewed and approved* by the following:

Pamela S. Wolfe
Associate Professor of Special Education
Dissertation Adviser
Co-Chair of Committee

Paul J. Riccomini
Associate Professor of Special Education
Co-Chair of Committee

Jonte C. Taylor
Assistant Professor of Special Education

Ashley N. Patterson
Assistant Professor of Curriculum and Instruction

Mary C. Scheeler
Associate Professor of Special Education
Head of Graduate Program

*Signature are on file in the Graduate School
ABSTRACT

The present study investigated the effects of online Community-based Instruction (CBI) training for pre-service special education teachers in Turkey. The training consisted of three knowledge modules and skill application assignments designed to be completed in four weeks. Results demonstrated statistically significant difference between control and treatment groups on CBI knowledge. Furthermore, there were significant correlations between application assignment scores and post-assessment scores, as well on time spent online and post-assessment scores. Maintenance data collected three months after the training showed that pre-service teacher participants’ maintained their knowledge related to CBI over time. Limitations and future directions are discussed.

Keywords: community-based instruction, online training, pre-service special education teachers
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Chapter 1

Introduction

One critical outcome of special education is to enable students with disabilities to become productive members of society and have access to meaningful post-school opportunities such as employment and community participation (Hanley-Maxwell & Collet-Klingenberg, 2012). Educational mandates such as IDEA, with its emphasis on post school outcomes, prioritize the development of employability skills, transition to post-school life, work preparation, and community integration. Despite the mandate of transition planning and appropriate knowledge and skills for community integration, students with disabilities face poor post-school outcomes (Newman, Wagner, Cameto, & Knokey, 2009). Related to employment, only 17.5% of individuals with disabilities are employed; the unemployment rate for individuals with disabilities who are in the labor force is reported as 10.7, a rate more than twice of those without disabilities (5.1%) (U.S. Bureau of Labor Statistics, 2016). Furthermore, findings from the National Longitudinal Transition Study (NLTS) indicates that many students with disabilities lack independence in the community upon graduation from high school (Brown, 2000; Walker, Uphold, Richter, & Test, 2010). For example, only one eighth of individuals with disabilities live independently two years after their graduation (Wagner, Newman, Cameto, & Levine, 2005); 25% have access to community events or belong in a community group (Wagner et al., 2005) despite the fact that majority of school districts (85%) included community training as part of their transition program (Walker et al., 2010).

Community Based Instruction

One of the most common methods for providing community experiences to students with disabilities while they are enrolled in high school is community-based instruction (CBI). CBI is
an instructional strategy in which students with disabilities learn functional skills in natural environments and contexts (Steere & DiPipi-Hoy, 2012). Natural environments are the locations used frequently by students with disabilities and their families (e.g., neighborhood, public transportation, recreational areas, work-related environments). As the term suggests, CBI centers on instruction, and thus it is distinguished from other community events such as field trips. CBI requires individualization and/or specific goals for the student. Specifically, CBI is ongoing instruction that occurs regularly with individualized goals derived from the student’s Individualized Education Program (IEP). Quality CBI requires low student-to-teacher ratios so that systematic instruction and data collection can occur. In addition, there is a strong evidence based for CBI (Browder, Wood, Thompson, & Ribuffo, 2014) that includes community referenced instruction (Bambara, Koger, & Bartholomew, 2011), use of applications of an activity (Lattimore, Parsons, & Reid, 2006), and use of video examples (Van Laarhoven, Johnson, Van Laarhoven-Myers, Grider, & Grider, 2009) The importance of CBI is widely accepted as an optimal aspect of instruction (Beakley, Yoder, & West, 2003; Kim & Dymond, 2010). Agran and his colleagues (1999) conducted a study on secondary special education teachers’ opinions related to CBI. Their findings indicated that more than 70% of the teachers agreed that CBI was beneficial for students with disabilities. CBI has been used to teach functional skills such as using the bus, using a debit card (Alberto, Cihak, & Gama, 2005; Cihak, Alberto, Taber-Doughty, & Gama, 2006), grocery shopping (Bates, Cuvo, Miner, & Korabek, 2001; Cihak, Alberto, Kessler, & Taber, 2004; Morse & Schuster, 2000), calling for assistance (Taber, Alberto, Hughes, & Seltzer, 2002), and juice and sandwich making (Murzynski & Bourret, 2006).
CBI can occur at any age but most often occurs when students with disabilities are beginning to take part in formal transition planning at age 16. CBI and transition planning are closely linked because transition planning for community integration is important as students age, so they are able to navigate in their community as independently as possible. Although transition planning does not have to incorporate CBI, it is optimal (Kim & Dymond, 2010; White & Weiner, 2004) because CBI occurs in environments that are practical and thus create meaningful experiences that permit students with disabilities to practice and generalize skills they need in locations they use frequently (Walker et al., 2010). One key advantage of CBI is increased generalizability of skills to other environments. Most students with disabilities have difficulty generalizing skills learned in their classroom to the community which limits future communication participation (Iovannone, Dunlap, Huber, & Kincaid, 2006; Kraemer & Blacher, 2001; Spence-Cochran & Pearl, 2006).

Employment is one of the most important transition goals for students with disabilities that can be enhanced by CBI. Several studies have examined the link between work experiences in community settings while students are still enrolled in high school and competitive/paid employment outcomes (Allen, Wallace, Greene, Bowen, & Burke, 2010; Benz, Yovanoff, & Doren, 1997; Benz et. al., 2000; Benz, Lindstrom, Unruh, & Waintrup, 2004; Cimeria, 2010; Inge, Wehman, & Dymond, 2005; Karpur, Clark, Caproni, & Sterner, 2005; Luecking & Fabian, 2000; Rabren, Dunn, & Chambers, 2002). These studies demonstrate that students with disabilities who participated in CBI were statistically more likely to be employed after their graduation from high-school. Additional research indicates that having two or more work-related experience in the last two years of high school also increases employment outcomes (Allen et al., 2010; Cimeria, 2010; Kim & Dymond, 2010; Benz et al., 1997).
Independent living is another important outcome for students with disabilities that can be enhanced through the use of CBI. Independent living skills that have been taught in the community include self-care or daily-living skills such as cooking, shopping, and using community services (Mechling & Gast, 2003; Mechling, Gast, & Barthold, 2002; Mechling, Gast, & Langone, 2003). Specifically, Dipipi-Hoy and Jitendra (2004) conducted parent-delivered instruction that improved participants’ purchasing skills at stores in the community. The utility of CBI widely is acknowledged as an evidence-based practice in the U.S. (NAC, 2015).

Despite research evidence attesting to its effectiveness, countries other than the U.S. have been less likely to incorporate CBI as an instructional strategy. Developing comprehensive, community based services and practical implementation strategies have been highlighted as a challenge of special education in countries such as Ukraine and Switzerland (Hollenweger, 2014; Kolupayeva, Taranchenko, & Danilavichute, 2014) and that pre-service higher education programs should include more credits related to teaching students with disabilities in order to prepare teachers to implement variety of instructional techniques (Rao, Cardona, & Chiner, 2014). Like the U.S., reasons for not implementing CBI may be attributed to factors such as administrative support, liability and budgeting (Beakley et al., 2003; Nietupski, Nietupski, Houselog, Donder, & Anderson, 1988). Further, each country has unique cultural and attitudinal attributes that affect if and how transition and CBI is incorporated (Alqraini, 2014; Melekoglu, 2014).

**CBI for Students with Disabilities in Turkey**

As underlined in Decree Law (No 573 with amendments in 2006 and 2012) one of the most important goals for teachers in Turkey is to prepare students with disabilities for post-
school education, independent living, and employment (Cavkaytar, 1990). Unlike that of the U.S., transition planning is not specifically mandated in Turkey, and CBI is not commonly used as an instructional strategy by educators. Previous research conducted in Turkey has shown that work-related training of students with disabilities is inadequate, and there are no specific community integration programs that facilitates employment and community inclusion for students with disabilities (Ozdemir, 2008; Yilmaz, 2004). At present, only one study conducted in Turkey focused on CBI (Tekin-Iftar, 2008). These authors trained parents to deliver CBI with simultaneous prompting to teach community skills (grocery shopping, ordering rolls, and ordering dry cleaning) to four children with developmental disabilities. Findings showed that all of the parents implemented the intervention successfully, and that CBI was found to be effective for teaching community skills. Further, participants were able to maintain and generalize the acquired skills over time and in different locations.

Despite initial evidence, there are barriers related to CBI implementation in Turkey that limit CBI implementation such as poor parental attitudes toward their children’s capabilities, poor community reactions to integration efforts, limited community options, and a critical lack of knowledge of teachers about how to plan for and implement CBI. In the study conducted by Unal and Yildiz (2017), researchers examined undergraduate-level student participants’ attitudes towards individuals with disabilities. Only 38.7% and 24.7% of participants responded positively to “I would work in the same location” and “I would be a neighbor” survey questions, respectively (Unal & Yildiz, 2017).

Given the strong research base related to the benefits of CBI, it is critically important for teachers in Turkey to be trained to use CBI as a strategy for students with disabilities. CBI has the potential to change parental and societal attitudes by permitting the public to see individuals
with disabilities as being capable, able to gain employment, and independently navigate throughout their community. CBI training in Turkey is an important opportunity to enhance instruction for individuals with disabilities and thereby highlight the capabilities of students with disabilities and their contribution to the social and economic development of their communities, and potentially, their country. Additionally, CBI training in Turkey will lead to more positive transition outcomes by increasing students’ community experiences and independence. Through CBI, students in Turkey can potentially gain appropriate social behaviors prior to their high school graduation, better community integration, and employment.

**CBI Training for Pre-service Special Education Teachers in Turkey**

Although there is extensive research supporting CBI and transition planning, very little training of pre-service teachers in the strategy is occurring in either the U.S. or Turkey. Morningstar and Benitez (2013) reported that in the U.S., special education teachers completed an average of only one course or less related to transition planning and relatedly CBI in their undergraduate education. In higher education institutions in Turkey, there is neither a systematic transition procedure in teacher training nor any planning for individuals with disabilities (Melekoglu, 2014). There is no research related to how much CBI training, if it even exists, is provided to pre-service teachers there.

One way to begin implementation of CBI in Turkey is through training of pre-service teachers. Once trained, pre-service teachers will be able to implement CBI as they enter the workforce and thereby change how instruction for students with disabilities occurs. Given the unique culture of Turkey CBI training must encompass the basic rationale for such training and should include a focus on defining CBI and identifying challenges and solutions when implementing CBI. Training also should include how to maximize the use of natural
environments, strategies to promote independence, and self-determination strategies students with disabilities need in the community. It should further focus on how to establish communication and collaboration with other stakeholders including family members and other professionals, and how best to include assessment relevant to CBI evaluation (Beakley et al., 2003; Kim & Dymond, 2010).

**Online Training.** An effective way to educate pre-service teachers in Turkey about CBI is via online training. Online training is learning based on information and communication technologies with interaction between participants and the content, and participants and the instructor through the web (Sangra, 2012). Online trainings can provide targeted information for a group of individuals who have specific training needs (Collins, Schuster, Ludlow, & Duff, 2002). Online training is an optimal means to train pre-service teachers because it is individually paced, provided at convenient times, and can be delivered with no or minimal expense once it is developed (Douglas, McNaughton, & Light, 2013; Lewis, 1990). Effective online training includes features such as text-based information (McKeown & Howard, 2012), video models (Whalen, Massaro, & Franke, 2009), and checks for understanding and application of materials (Lebel, Olshtain, & Weiss, 2005). Use of multimedia may enhance the quality of instruction by including videos, application assignments, and self-evaluation checks.

**Purpose of the Current Research**

The purpose of the current research was to investigate the effects of online CBI training for pre-service special education teachers in Turkey. The following research questions guided the study:

1. What are the effects of an online training on the general knowledge of CBI of pre-service special education teachers in Turkey?
1. Are there differences between treatment and control group participants on general knowledge of CBI?

2. Was there a relationship between CBI online training for treatment participants and the following:
   a. post assessment scores and application assignment scores?
   b. post assessment scores and time spent online?

3. What was the satisfaction level of treatment group participants related to online training content and delivery?

4. What was the effect of the online training on the general knowledge of CBI treatment group participants in a three-month follow-up?
Chapter 2

Method

Participants

Participants were recruited by selecting universities that enrolled pre-service teacher candidates in few regions (Northern parts of the country including Black Sea, Marmara, and Central Anatolia regions) of the country. This part of the country was selected because the region house universities with the largest number of senior pre-service special educators. Further, all of the universities are within close proximity to each other thereby facilitating access for the researcher. There were nine universities in the selected region. From the nine universities, three were randomly selected (drawn from a pool of names), and university administrators were contacted and asked to participate in the study. If personnel from a selected university chose not to participate, another university was randomly drawn until a total of three universities agreed to participate.

Once three universities had been selected, the program/practicum coordinator’s name and contact information were identified from each university’s web page. An e-mail was sent to each coordinator explaining the purpose of the study and requesting a time to schedule a phone conference at his/her convenience. Three days after the e-mail, a personal phone call was made to the program/practicum personnel to see if there were questions related to the purpose of the study and whether they would permit their pre-service candidates to participate.

If university personnel agreed to participate in the study, they were asked to distribute information to senior special education candidates who were enrolled in a practicum during fall, 2017 and placed in a special education classroom for the practicum (attached to the initial e-mail). The e-mail distributed to pre-service candidates included the following information: a) the
purpose of the study, b) who was eligible to participate, c) general procedures, d) benefits of the study, e) the voluntary nature of the study, and f) instructions to contact the researcher by e-mail to volunteer for the training and/or to ask for further information (Appendix C). Approximately 300 pre-service candidates enrolled in special education departments in Turkey in the northern region were invited to participate in the study. After the candidate contacted the researcher by e-mail and expressed interest in the training, the researcher contacted each participant by e-mail with information about logistics of the training and a date/tine for a group meeting at their university.

**Participant Demographics.** A total of 113 pre-service teachers participated in the study (N= 60 treatment, N= 53 control). Participants had an average of 22.44 years (Table 1) Of the 113 participants, 79 female (69.9%) and 34 were male (30.1%). In their practicum placements, participants were working with students diagnosed with Moderate ID (30.9%), Mild ID (26.5%), Severe ID (19.1%), ASD (18.3%), and Other Impairments (5.2%). Participants were working with students at the following grade levels: 4th- 8th (38.9%), 1st- 4th (32.8) and 8th- 12th (28.3). Forty-five percent (45.2%) of the participants had no other experience with students with special needs other than their practicum placement. The remaining participants had spent time with students with disabilities (27.4%), had private teaching practice (17.7%), or had a family member with disabilities (9.73). Related to transition planning, 61.1% of participants indicated they had no prior knowledge or experience; 33.6% of participants rated their experience as either “Poor” or “Fair”. Moreover, 63.6% of participants who marked any level of experience chose conferences as the venue for previous training. For knowledge and experience related to CBI, 79.7% of participants indicated no experience; 18.5% of participants marked indicated they had “Poor” or “Fair” knowledge or experience. Of those pre-service teachers who had any level of
knowledge or training of CBI, 74.1% marked conferences as their source. Related to pre-service teachers’ confidence level carrying out teaching in the community, 54% of participants rated their confidence as “Good” or “Very Good” for carrying out teaching, and 54.9% of participants for transition from school to community. Only 10.6% and 13.2% of pre-service teachers selected “Poor” confidence level, respectively.

Pre-service teachers also were asked open ended questions about what they perceived the advantages and disadvantages of conducting CBI and their willingness to carrying out CBI once they were employed. Advantages included increasing awareness of society and students’ independence (43.5%); increasing generalization and consistency for learned skills (24.2%); students’ self-confidence (10.8%); students’ social and communicational skills (17.4%); and family awareness (4.1%). Disadvantages of CBI were people’s negative perspectives and its effects on students (24%), lack of teacher training (10%); Need for a better economy and more time (7%); students’ challenging behaviors (7%); negative family perspectives (5%); and difficulty of environmental change (3%). In the second open-ended question related to pre-service teachers’ willingness to carrying out CBI, participants replied as “Yes” (94.7%), “No” (2.65%), or “I am not sure” (2.65%).

**Procedures**

The study was approved by the Pennsylvania State University’s Institutional Review Board (IRB). In addition, the study was approved by the Turkish Ministry of Education, a ministry supervising the eligibility to conduct any study in universities in Turkey.

Times and locations of group informational sessions were scheduled by the researcher in collaboration with university coordinators. A group informational meeting (Appendix D) was held at each university to inform participants about the study, study purpose, and secure their
consent (Appendix E). At the informational meeting, participants were provided with usernames and passwords to gain access to assessments instruments and the online training. The online training was password protected for both treatment and control group participants to ensure that only treatment group participants could access the training and assessments, and control group participants could access assessments only at the appropriate time. The informational sessions were held at each university in a typical classroom. Usernames pre-assigned as treatment group usernames and control group usernames in a random draw. Participants were not informed of whether they had been assigned to a treatment or control group. Groups were named Group 1 (treatment) and Group 2 (control) at the meeting, and participants knew only that the schedules of the two groups were different. Group 2 (control group) had access to the online training content at the completion of the study. All participants (treatment and control) who completed the on-line module training received a Participation Certificate from the researcher that stated that they had participated in a training related to CBI.

The online training for the treatment group consisted of knowledge modules and skill application assignments designed to be completed in four weeks. Table 2 shows a sample schedule of the training. All participants began the training at the same time. Monday through Friday, participants read the modules and took self-check quizzes. Participants were told they could e-mail the researcher with questions related to the module at any time. Participant questions were answered by the researcher within 24 hours. Participants submitted application assignments on Saturday and Sunday. At the end of each weekend, participants were provided with feedback for the assignment using a predesigned grading rubric. Feedback was provided to participants by the end of each Monday (1st day into the next module). Technical support was provided by the researcher; if participants experienced any issues/questions either about the
webpage or content itself, they contacted the researcher. Question or comments were answered within 24 hours. The modules remained locked (unable to be accessed by participants) until the date specified on the schedule. Participants were not able to access the training materials if they had not completed application assignments at the assigned time. Application assignments are in a folder in the researcher’s PC.

**Online Content**

The online training consisted of three modules. Content for the online training was based on previous research surrounding the identification of critical components for initial development of professional standards for special educators and other research related to CBI (e.g., Beakley & Yoder, 1998; Beakley et al., 2003; Nietupski, et al., 1988; Walker et al., 2010) (Table 4). The online training included the following knowledge base:

Module 1: Definition and importance of CBI; relationship between CBI and transition planning; CBI as an effective way to carry out instruction with components of transition planning, performance-based assessment, systematic and ecological instruction, transfer of skills and generalization, age-appropriateness, problem-solving, and acceptance in the community; differences between other outside activities and CBI, participation and stakeholders of CBI; research and literature about CBI; benefits of CBI to students, parents, educational staff, and community. Table 3 shows a flowchart of the Module.

Module 2: Basic challenges and solutions for implementing CBI including administrative support, staff/parent concerns, lack of staff training and allocation, scheduling, liability, and budgeting; essential steps of CBI as an instructional strategy including communication with students and parents, ecological inventory, finding locations, curriculum and plan, teaching, and
evaluation; appropriate CBI sites for students at transition age, and resources and support systems as parents, administrators, and other professionals for CBI

Module 3: Natural environments as locations where CBI most frequently takes place, strategies to promote independence in natural environments; jobsite analysis and task analysis; self-determination strategies students need in the community including seeking immediate assistance, personal accommodations, personal and citizen rights, and alternative and augmentative communication (AAC); assessment basics and tools, assessment process and appropriate evaluation of CBI.

The module content was uploaded using Adobe software. Online training modules included text-based information; embedded video models and examples; self-check questions; and application assignments.

Design

An online pre/post assessment was used to assess CBI knowledge of the treatment and control groups. There are different pre/post assessment designs in behavioral research with the purpose of comparing groups and/or measuring the change resulting from the intervention (Dimitrov & Rumrill, 2003). A randomized control group design was utilized in the current study to evaluate the effectiveness of the online training in improving participants’ knowledge and skills related to CBI. The randomized design was selected because universities were randomly selected out of a pool for inclusion, and individual participants from each university were randomly assigned in either the control or treatment group. Participants in the treatment group received the online training; participants in the control groups received no training related to CBI.
Data Analysis

The pre/post assessment data were analyzed using ANCOVA analyses via the statistical program SPSS. The pre-assessment scores were used as a covariate in ANCOVA with the pre-assessment post-assessment design in order to reduce the error variance and eliminate systematic bias (Dimitrov & Rumrill, 2003). Especially effective with randomized control group designs, ANCOVA adjusts the post assessment means for differences between groups on pre-assessment because of intact groups. Further, previous researchers have indicated that the use of ANCOVA is preferred over other analyses due to its practicality to resolve problems such as heterogeneity of regression and greater statistical power to enhance generalization. In addition, the influence of participants’ characteristics was tested via ANOVA analyses using an alpha coefficient of .05 to compare the pre- and post-assessments on the community-based instruction knowledge assessment.

Instruments

There were two dependent variables: (a) CBI knowledge pre/post assessment, and (b) module application assignments. In addition, a demographic form, an online training satisfaction assessment, and maintenance assessment were administered to participants assigned to the treatment group.

Pre-service teacher demographic form.

A demographic form was developed by the researcher to identify participants’ characteristics. The form consisted of three sections including (a) demographic information such as gender, age, and grade level of the students they taught; (b) experience, knowledge and confidence levels associated with CBI; and (c) open-ended questions related to the advantages and disadvantages of conducting CBI and pre-service teachers’ willingness to carrying out CBI
once they were employed (Appendix F). Participants in both the treatment and control groups completed the demographic form.

**Community-based instruction knowledge pre/post assessment.**

The purpose of the community-based instruction knowledge assessment was to measure pre-service candidates’ knowledge related to CBI. The instrument was developed by the researcher and included 20 true/false questions (Appendix G). The instrument was reviewed and answers validated by two experts in the field of special education. The instrument was used for pre/post assessment. Both treatment and control group participants completed pre/post assessments.

**Application assignments.**

Application assignments were used to evaluate treatment group participants’ application of CBI knowledge gleaned from the modules to practical situations. Application assignments were based on the module content and included the following: a) preparing a letter to parents related to CBI benefits (Module 1), b) identifying sites in the community (Module 2), c) analyzing a job site (Module 3) and; d) developing a task analysis for a specific task in a community site (Module 3). Grading rubrics were used to assess each application assignment (Appendix H). Each of the four application assignment were worth ten points (total 40), and participants needed to receive a total score of 32 in accordance to a preset criteria (80%) which represents a mastery or accuracy criterion. The application assignments were completed by participants in the treatment group only.

**Online training satisfaction assessment.**

A satisfaction assessment was developed by the researcher to ascertain participants’ opinions related to the quality of the online training. The assessment included two parts and
participants were asked to complete ten questions: seven Likert-Scale questions about information, and delivery method, and three open-ended questions about the quality of training in general (Appendix I). Participants completed the satisfaction assessment at completion of the training after the post-assessment was administered. Only treatment group participants completed the satisfaction assessment.

**Maintenance assessment.**

Approximately three months after the post-assessment data collection, the community-based instruction knowledge assessment was again administered to assess whether the CBI information had been maintained by participants over time. Forty-two of the treatment group participants (70%) completed the maintenance assessment. Maintenance data were completed in a paper-pencil format and collected by program/practicum coordinators at each university who then forwarded the responses to the researcher.
Chapter 3

Results

A total of 113 individuals (treatment and control group members) participated in the study. What follows details differences between the pre/post scores of treatment and control groups, and the effect of participant demographics on assessments scores. The section also details the effects of the application assignments, and time spent online on post-assessment scores and maintenance scores.

Pre/Post Scores on Community-based Instruction Online Training

To determine the main effect of online CBI training between the treatment and control groups from pre-assessment to post-assessment, analysis of covariance (ANCOVA) was used as the first statistical analysis to evaluate whether pre-service teachers received statistically higher scores on the assessment after their participation in the online training. In order to employ ANCOVA, preliminary analyses need to be assessed. First, treatment and control groups cannot be statistically significantly different on pre-assessment scores. The ANOVA analysis revealed no significant difference between the treatment and control groups on the pre-assessment, $F(1, 111) = 1.412, p=.236$, indicating that the pre-assessment scores could be used as a covariate. In addition, use of an ANCOVA requires that there is no significant interaction between covariate and independent variables thus indicating homogeneity of regression slopes analysis. If a significant interaction is present, the assumption is not met, and the ANCOVA would be inappropriate. In the current analysis case, the interaction was not statistically significant $F(1, 109) = 1.337, p=.250$, partial $\eta^2=.012$ and therefore met homogeneity of regression assumption and indicated that an ANCOVA could be performed.
The ANCOVA results were found to be statistically significant $F (1, 110) = 226.509, p < .001$, partial $\eta^2 = .673$ indicating a significant difference between the treatment and control groups on the pre to post community-based instruction assessment (Table 4).

Table 4.

*Post-Assessment Scores ANCOVA*

<table>
<thead>
<tr>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>2</td>
<td>264.474</td>
<td>130.541</td>
<td>.000</td>
<td>.704</td>
</tr>
<tr>
<td>Intercept</td>
<td>1</td>
<td>84.358</td>
<td>41.638</td>
<td>.000</td>
<td>.275</td>
</tr>
<tr>
<td>Pre-Assessment</td>
<td>1</td>
<td>34.906</td>
<td>17.229</td>
<td>.000</td>
<td>.135</td>
</tr>
<tr>
<td>Groups</td>
<td>1</td>
<td>458.902</td>
<td>226.509</td>
<td>.000</td>
<td>.673</td>
</tr>
<tr>
<td>Error</td>
<td>110</td>
<td>2.026</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>113</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>112</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* R Squared= .704 (Adjusted R Squared= .698)

**CBI Knowledge of Treatment Group Participants**

To examine difference between pre-service teacher participants’ ($n= 50$, treatment group) knowledge related to CBI from pre- to post-assessment measures, paired sample t-tests were employed to evaluate whether pre-service teachers received higher scores on the assessment after their participation in the online training. As shown in Table 5, results indicated that the mean score on the post-assessment ($M= 16.13, SD= 1.39$) was significantly higher than the mean score on the pre-assessment ($M= 11.70, SD= 1.06$), $p<.001$. 
The effect of participants’ demographic form responses was tested via ANOVA analyses using an alpha coefficient of .05 to compare the pre- and post-assessments on the community-based instruction knowledge assessment. No significant effect between participants was found for gender, \( F(1, 58)= 1.530, p= .221; \) age, \( F(2, 57)= .247, p= .782; \) grade level of students they work with \( F(2, 57)= .287, p= .752; \) their prior knowledge or experience related to CBI \( F(3, 56)= 1.296, p= .285; \) their prior knowledge or experience about transition \( F(3, 56)= .094, p= .963; \) their confidence level for carrying out teaching to the community \( F(3, 56)= 1.718, p= .174; \) or their confidence level for the school to work transition process \( F(3, 56)= 1.312, p= .280. \) The ANOVA analysis revealed a significant difference for participants’ experience other than their practicum program, \( F(3, 56)= 3.138, p= .032. \) To understand where the significant differences occurred under participants’ experience other than practicum status, Tukey post hoc tests were used. The results revealed no significant difference between the “None” \( (M=16.26), \) “Spending Time with a Student” \( (M=14.75) \) and “Family Member” \( (M=16.27) \) categories. However, the “Private Teaching Practice” category differed significantly from the “Spending Time with a Student” \( (M=17.00) \) category at \( p<.05. \)

Table 5.

*Results of Paired Samples T-Test*

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>4.4333</td>
<td>1.5334</td>
</tr>
</tbody>
</table>

*Note.* SEM= Standard Error Mean. CI= Confidence Interval of the Difference
Application Assignment Scores and Post-assessment

Four application assignments were used to evaluate participants’ performances related to CBI knowledge and their ability to apply their knowledge in practical situations. Application assignments were worth 40 points in total, and participants needed to have at least 32 points to meet the predetermined 80% criteria (per mastery or accuracy criteria). However, only 35% of participants met the criteria ($M = 28.05, SD = 6.971$).

To calculate the correlation between post-assessment scores and total module application assignment scores of participants, Pearson’s $r$ was employed because it has a normally distributed data set and an upward linear relationship. The correlation analysis revealed a significant correlation between total assignment scores and post-assessment scores (Table 6). The relationship between these two score categories can be seen in the figure (Figure 1).

Table 6.

*Pearson’s $r$ Correlation*

<table>
<thead>
<tr>
<th>Post-Assessment Scores</th>
<th>Total Assignment Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-Assessment Pearson Correlation 1</td>
<td>.422*</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.001</td>
</tr>
<tr>
<td>N</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>60</td>
</tr>
</tbody>
</table>

*. Correlation is significant at the .01 level (2-tailed).

Time Spent Online and Post-Assessment Scores

One feature of the online training webpage was the ability to calculate participants’ time spent online. In the current study, online time included participants’ time on modules, and pre- and post- assessments. The minimum and maximum values as minutes with mean and standard deviation are represented on the following table (Table 7).
Table 7

**Descriptive Statistics for Time Spent Online**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Assignment Scores</td>
<td>60</td>
<td>34.90</td>
<td>389.70</td>
<td>191.24</td>
<td>81.91</td>
</tr>
<tr>
<td>Valid N</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To calculate the correlation between post-assessment scores and time spent online, Pearson’s \( r \) was used. The correlation analysis revealed a significant correlation between time spent online and post-assessment scores (Table 8). The relationship between these two score categories can be seen in the figure (Figure 2).

Table 8.

**Pearson’s \( r \) Correlation**

<table>
<thead>
<tr>
<th></th>
<th>Post- Assessment Scores</th>
<th>Time Spent Online</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post- Assessment</td>
<td>Pearson Correlation</td>
<td>( .574^* )</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>( .001 )</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>60</td>
</tr>
</tbody>
</table>

\( ^* \). Correlation is significant at the .01 level (2-tailed).

**Online Training Satisfaction Assessment**

The satisfaction assessment was developed to ascertain treatment group participants’ opinions about the online training. All 60 treatment group participants completed the online training satisfaction assessment. Questions related to online content and organization, revealed
that 58.3% of participants strongly agreed and 41.7% of participants agreed that the content met their needs and expectations ($M = 4.58, SD = .497$); 100% of participants strongly agreed or agreed that the content improved their knowledge ($M = 4.77, SD = .427$); 97% of participants strongly agreed or agreed that the content was well organized ($M = 4.73, SD = .446$); 95% of participants strongly agreed or agreed that length was appropriate ($M = 4.57, SD = .593$). Two questions related to application assignments included assignment appropriateness, and knowledgeable and well-preparedness. Participants strongly agreed or agreed at 100% to appropriateness ($M = 4.75, SD = .437$) and 98.3% strongly agreed or agreed knowledgeable and well-prepared ($M = 4.68, SD = .504$). On the last Likert-scale question, 100% of participants strongly agreed or agreed that the investigator responded to participants’ questions on time and appropriately ($M = 4.87, SD = .343$).

In response to open-ended questions, 100% of the participants answered questions about the most important topic and what aspects of the online training worked well. In addition, only 20 pre-service teachers indicated that there was an aspect of online training that could be improved. Responses are shown in Table 9.

Table 9.

Responses to open-ended questions of satisfaction assessment

<table>
<thead>
<tr>
<th>Most important topic</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>having information about CBI and the transition process</td>
<td>50 %</td>
</tr>
<tr>
<td>increasing awareness and students’ independence in society</td>
<td>22.7%</td>
</tr>
<tr>
<td>learning about possible locations and related application assignments</td>
<td>22.3%</td>
</tr>
<tr>
<td>learning about analyzing a job-site and related application assignments</td>
<td>5%</td>
</tr>
</tbody>
</table>

An aspect of online training worked well

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
</table>

training in general & 48.3% \\
sample videos & 23.3% \\
application assignments & 18.4% \\
given examples and non-examples & 10% \\

**An aspect of online training that could be improved**

nothing to improve & 66.7% \\
organizational change on the page of assignment submitting would be helpful & 13.3% \\
increasing the length of the training and number of videos related to CBI concerns & 13.3% \\
clearer wording for some directives on forms and assignments & 6.7% \\

**Maintenance Assessment**

The purpose of the maintenance assessment was to examine differences between pre-service teacher participants’ knowledge related to CBI in a three-month follow-up. Differences between the pre-assessment to the maintenance assessment, and the post-assessment to the maintenance assessment were calculated using independent samples t-tests due to their unequal sample sizes related to participant attrition. The analysis indicated whether pre-service teacher participants received scores higher on their post-assessment three months after the completion of training. As shown in Table 10, the results indicated that the mean score on the maintenance assessment \( (M = 15.05), \ SD = 1.52) \) was significantly higher than the mean score on the pre-assessment \( (M = 11.70), \ SD = 1.06) \), \( p < .001 \) while mean score on the post-assessment \( (M = 16.13), \ SD = 1.39) \), \( p < .001 \) was found to be significantly higher than the maintenance assessment with the mean difference of 1.08.
Table 10.

*Results of Independent Samples T-Test*

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>df</th>
<th>Sig.(2-tailed)</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Upper</td>
</tr>
<tr>
<td>Pre-Assessment</td>
<td>13.053</td>
<td>100</td>
<td>.000</td>
<td>3.348</td>
<td>.256</td>
<td>2.839</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.856</td>
</tr>
<tr>
<td>Post-Assessment</td>
<td>-3.717</td>
<td>100</td>
<td>.000</td>
<td>-1.086</td>
<td>.292</td>
<td>-1.665</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.506</td>
</tr>
</tbody>
</table>

*Note. CI= Confidence Interval of the Difference*
Chapter 4

Discussion

The current investigation revealed that very little if no CBI training is being provided to pre-service teachers in Turkey, and provides initial evidence that a CBI online training can produce effective and efficient results to improve pre-service teachers’ knowledge and skills related to CBI. Application assignment scores and time-spent online were found to be highly correlated with post-assessment scores of treatment group participants. After completing the online training, participants (100%) agreed or strongly agreed that the online training content improved their knowledge, also evidenced by their post-assessment, assignment, and maintenance scores.

Effect of CBI Online Training

Although transition planning is mandated in the U.S., it is not mandated in Turkey. Research conducted in the U.S. clearly links effective transition planning to improved community outcomes, including that of employment (Rabren et al., 2002). Karal and Wolfe (in submission) conducted a pilot study in Turkey to assess the effects of an in-service training program for special education teachers in Turkey. The in-service training centered on teachers’ knowledge (N= 22) of transition planning and goal development for students with disabilities. Results of the study demonstrated that special education teachers had not received any training related to transition planning, community replacement, nor preparing students for after-school life; the majority of teacher participants (90.9%) lacked experience performing CBI and transition-related activities for their students with disabilities (Karal & Wolfe, in submission). The authors concluded that, given the lack of general knowledge of transition or CBI, basic
knowledge related to CBI was warranted and that, through CBI instruction, transition to employment may begin to occur.

Past research related to CBI in the U.S. has shown that both researchers and implementors accept CBI as an effective practice to prepare students with disabilities to be successful in their after-school life (Inge et al., 2005, Kim & Dymond, 2010; Luecking & Fabian, 2000, Test, Aspel, & Everson, 2006). The majority of pre-service teacher participants in the current study in Turkey reported that they lacked knowledge/experience in transition and CBI (78.6%, 91.2%, respectively rated as “None” or “Poor”). Teachers’ limited knowledge on CBI may result in poor transition outcomes for students with disabilities and decreases the possibility of implementing effective transition activities (Benitez et al., 2009).

The present investigation showed that the online training was successful in increasing CBI knowledge for pre-service teachers in the treatment group as evidenced by significant increases in pre- to post assessment scores; control group participants did not make gains related to CBI knowledge. Treatment group participants were similar along demographic characteristics; there was no significant difference among the participants for most of the demographic categories including age, gender, level of students with whom they work. In addition, there were no differences between the treatment and control group participants related to their confidence level about the school-to-work transition process or carrying out teaching to the community. A study conducted by Pickens and Dymond (2015) indicated that exposure to teaching practice in the community and seeing CBI as an effective strategy created greater confidence among teachers in carrying out the activity. Not surprisingly, the majority of research indicates that teachers who possess limited knowledge and skills related to the transition process and CBI are less confident, less likely to carry out teaching to the community (Benitez et al., 2009), and have
lower expectations about capabilities of students with disabilities (Beresford, 2004; Heslop, Mallett, Simons & Ward, 2002). In the present study, pre-service teachers having some experience with “Private Teaching Practice” scored significantly higher than pre-service teachers only having experience of “Spending Time with a Student” outside of their practicum programs. The results revealed that there was a significant difference for the category of “Private Teaching Practice” and no significant difference for the category of “Prior Knowledge and Experience”.

These findings might have occurred for several reasons. First, the time frames of each category of experience are different: “Prior Knowledge and Experience” denotes past experiences, and majority of participants indicated that they had no or poor (minimal) prior experiences related to transition planning (80.6%) and CBI (91.2%, respectively). In contrast, “Private Teaching Practices” denotes recent, ongoing experiences for senior pre-service teachers with students having disabilities other than those in their practicum program. Second, in addition to representing an ongoing experience, private teaching practices are another opportunity for pre-service teachers in Turkey to build skills and broaden their knowledge. Online training content and instructional activities likely would be more helpful for participants who are experiencing private teaching practice because of the additional opportunity to apply the module content and transfer what they learned into real life situation with their students.

Unless the previous research indicated low confidence levels for teachers (Benitez et al., 2009), only 10.6% and 13.2% of pre-service teachers in the treatment group specified their confidence levels as “Poor” for school to work transition process and carrying out teaching to community. There are low expectations in Turkey related to students with special needs’ capability within community settings by teachers, families, employers, and the community in general (Ozbey & Diken, 2010; Gundogdu, 2010; Gursel, Ergenekon, & Batu, 2007); however,
participants in this study appeared to have higher confidence and expectations related to community instruction. Not being employed as teachers and not experiencing actual instruction in the community might be the source of higher expectations. That is, pre-service teachers may not have faced the barriers associated with implementing CBI and thus, rate themselves as more confident.

**CBI Training and Application Assignments**

The present investigation showed significant correlations between post-assessment scores and application assignment scores. Although only 35% of the participants met the 80% pre-determined mastery criteria, results revealed a positive correlation. Application assignments appeared to be effective for increasing the post-assessment scores and was found to be one of the most important aspects of the training by 22.3% participants in the satisfaction survey results. The reason behind the significant correlation of application assignments (writing a letter, identifying sites in the community, analyzing a job site and a task analysis for a specific task in the community) might have been the opportunity to apply practical knowledge to activities in “real life” situations. Writing a letter allowed participants to introduce and advocate for CBI to family members of students with disabilities by underlining benefits to the student, family, and community. Identifying sites in the community created a situation for participants to devise a specific CBI location for a student with disabilities to work and learn while analyzing a job site as well as, the task that could be completed at the job site thus, giving pre-service teachers the opportunity to integrate information in real world environments.

Application is necessary for sustainability when teachers gain new knowledge (Browder et al., 2012). Moreover, linking theory and practice, and gaining more successful experiences are found to be essential components of the learning process for pre-service teachers (Kostiainen et
al., 2018). In addition to the real-life experience related to CBI, the application assignments served to increase the functionality of the module information by highlighting how, when, and where to use knowledge and skills in current situations and in the future (Wolfe & Ostryn, 2012).

**CBI Training and Time Spent Online**

The current investigation indicated that there was a significant correlation between post-assessment scores and time spent online. Period of times for each participant in the treatment group was derived from the website and was found to be highly-distributed with minimum and maximum values of 34.9 and 389.7 minutes, respectively. The pre-calculation of time for filling out required forms took only approximately 40 minutes. In addition, videos embedded to modules were 47.43 in length. Having a mean of 191.2 minutes of time spent online, revealed a positive correlation between post-assessment scores and time spent online. Participants who spent more time on the website, attained higher post-assessment scores.

The previous research that has been conducted related to online delivery of training/courses has highlighted the difficulty in assessing content usage. Researchers found that examining connection between web pages (Sasson & Nachmias, 1999), participants’ access to different parts of the content (Pahl, 2002), computer log to see how participants navigate in the website (Nachmias & Segev, 2003; Zaiane & Luo, 2001), and first clicks for true logins that show participants’ access to the content intentionally (Lebel et al., 2005) can be used as evaluators of time spent online. For this investigation, actual time spent online was used instead of examining navigations or logins for assessing content usage because it provided a measure of the participants’ time devoted to the module itself and the total length of time they engaged with the training. In addition to illustrating content usage more effectively, including time spent
online for each participant prevented conclusions from biases due to self-reporting about usage patterns (Nachmias & Segev, 2003).

Having no constraints imposed by time and space when participating in online training (National Research Council, 2007; Koch, 2007, Lebel et al., 2005) and flexible scheduling may have contributed to the significant correlation with time spent online and higher post-assessment results. According to previous research, one of the key features to being successful in a professional development program is duration (Kanaya, Light, & Culp, 2005; Mitchem, Wells, & Wells, 2003). Self-scheduling and flexibility of timing may have increased participants’ time spent online and efficacy of that period of time, and also increased the opportunity for ongoing access and support, both of which are inherent advantages of an online training (Dede et al., 2009).

Level of Satisfaction of CBI Training

The satisfaction assessment was indicated that the majority of participants were satisfied with the content, organization, and application assignments, as well as the support provided by the investigator (see Table 9). Participants (50%) indicated that the content related to CBI and the transition process was useful and 100% believed that the content improved their knowledge. Online training encompasses both the content and structure of the training, and delivery of the training (how the content is presented to students).

Content and Structure of CBI Training.

Pre-service teachers were provided with customized training that represented tailored content, instructional methods and navigation based on learners needs and expectations (Clark & Mayer, 2016). Similar to the Karal and Wolfe (in submission) study undertaken in Turkey related to the transition, the content was structured in the “Tell, Show, Try, Apply model (TSTA)”. This
model mirrors effective instruction including text-based content, videos, examples, and non-examples with applications at the end of each module (Browder et al., 2012). Further, the current online training used for multiple checks for understanding and application materials placed throughout the modules (Lebel et al., 2005). Self-assessment questions and activities increases participants’ interest and motivation for the content and leads to enhanced learning experiences (Dearnley & Meddings, 2007; Sharma et al., 2016). In addition, four application assignments based on module content were used to increase participants’ knowledge and experience through implementation of an information to real life situations. Last, participants obtained feedback about their assignments and had the opportunity to ask questions about every step in the training. Application means set of planned activities that are designed to integrate practice into real-world situations (Albers & Pattuwage, 2017; Mitchell, 2011;). Those applications are essential to increase effectiveness because purposeful utilization of an application affects the quality of the strategy, approach or training (Albers & Pattuwage, 2017). Although results of previous research undertaken in Turkey stressed the need for a longer and extended training opportunity (Karal & Wolfe, in submission), participants in the current study were satisfied with the length of the training (86.7%). It is unclear what the optimal length of training should be and length of training would likely correlate with the type and amount of content covered.

**Delivery of CBI Training**

Although not specifically surveyed about online instruction, participants felt that the training in general worked well (48.3%). Past examples of online training for Turkish pre-service special education teachers have shown positive results. For example, Etlican (2012) conducted a study examining online training perceptions of generation X (born between 1960s and 1980) and Y (born between 1980s and 2000). Generation Y participants were found to be more positive
about web-based learning and online training (Etlican, 2012). Such research may indicate that
current pre-service teachers in Turkey may have had more of a willingness to use web-based
technology given their age.

In the current study, pre-service teachers were provided with an online training that
included text-based information in a form of short paragraphs in each of the three modules to
support continuity and retention of the knowledge. Further, each information segment was
designed to be built on the previous one to support content integration for delivery. In addition to
the text-based online delivery, participants also were provided with embedded videos to support
related knowledge, visual examples of and reflections about CBI, and audiovisual enhancement
to text-based information. Research has suggested that adding audio to text-based content when
implementing online training increases motivation and functionality (McKeown & Howard,
2012). Similarly, as indicated in the majority of previous online training research, this delivery
method had specific advantages of flexible timing, repetition, and individually paced learning
factors (National Research Council, 2007; Koch, 2007), since learning pace and amount of time
each learner needs are different (Balta & Turel, 2013).

**Maintenance of CBI Training**

Maintenance is defined as the extent to which researchers objectively attempt to
demonstrate the spread of treatment effects across time, and the extent to which learners
continues to perform what they learned after training (NAC, 2015). Maintenance data were
examined to determine participants’ knowledge related to CBI in a three-month follow-up.
Although mean maintenance score was higher than pre-assessment and lower than post-
assessment scores, it was found to be significantly different than both pre- and post-assessment
scores. Significant difference between pre-assessment and maintenance assessment might be
explained by the effectiveness of the online delivery and content in the three-month time frame. Even though the mean difference was smaller than the mean difference between pre- and maintenance assessments, significant differences might be explained by participant attrition and not using/practicing the knowledge in the three-month time frame. Practice and application of new knowledge is necessary for continuity (Browder et al., 2012), so not practicing the knowledge and skills might account for the lower mean score. Further, losing participants between phases is a factor affecting internal validity, as well. Losing almost 1/3 of the participants from the treatment group for the maintenance assessment might explain the lower mean scores. Maintenance data from the three-month follow-up is valuable and a critical part of instruction. The three-month frame is a relatively long-term maintenance measure (Luczynski, Hanley, & Rodriguez, 2014). Given the time frame of 3 months, pre-service teachers were able to maintain the knowledge they gleaned from the training.

**Limitations**

There are at least four limitations to this investigation that are important to consider. First, the pre-post assessment as a measure is a threat to the internal validity. The same assessment form was given to all participants within a one-month time frame. The possibility of participants knowing questions and becoming more familiar with the measures is a threat to internal validity. In addition, in spite of the two experts’ reviews in the field, instruments in this investigation were researcher-developed.

Second, all materials and measures were created and translated from English to Turkish; thus, some inaccuracies related to concepts could have occurred due to translation since a few participants (6.7%) underlined the need of clearer wording for some directives on forms and assignments. Also, some participants (13.3%) reported some confusion about assignment.
submission on the assignment uploading page. Participants were provided a button for attachments and a box for their questions or notes. While some participants uploaded Word documents through attachment button, some participants wrote their assignments in the box provided for questions or notes. This difference of delivering assignment responses may have influenced participants’ time spent online.

With the effect of delivering assignment responses in the box provided on the uploading page on time spent online differences for participants, their online times were also estimated because of possibilities such as taking notes and working with notes rather than going back to webpage or watching provided videos from the main source rather than watching in the webpage. However, time spent online was found to be the most effective method between other content usage assessments.

Fourth, uploading blank assessment pages, sent intentionally or unintentionally, was accepted as successfully submitted by the system so that the following module became accessible for these participants even if they did not complete the assignment properly. This might be the reason for some participants not reaching the predetermined criteria for application assignments, even if they were seen as having been completed on the system.

Implications for Practice and Future Research

The findings of this investigation offer practitioners many ideas related to the importance of CBI in school-to-work transition planning and online training as a delivery method. Furthermore, the content of the current training represents effective text-based knowledge while online training represents an effective delivery method for pre-service teachers, in-service teachers, and other professionals in the area of special education.
Results of this investigation showed that the online CBI training was successful for pre-service teachers in the treatment group which addressed CBI knowledge evidenced by significant increases in pre- to post assessment scores. The TSTA (Tell-Show-Try-Apply) structure for the content affected the significance of training. Participants of the current training found application assignments useful; therefore, including an application component to a training content might enhance future practices. With this in mind, it would be good for the study participants to continue to look in the community for job-sites and other relevant real world application activities, that may vary depending on the region of the country. Further, the length of the training was satisfactory for the majority of participants; however, the length of training depends on the level of information. With another group of participants (e.g., freshman), broader content or elaborated modules would require longer training schedules. Some of the participants (13.3%) highlighted the need for more videos about CBI as the aspect of online CBI training that needs to be improved. Recording videos related to CBI with Turkish volunteers including solutions for potential barriers specific to the country such as low expectations about students with disabilities, reluctant family members, and negative community reactions are a few examples for cultural elements. Although the majority of the current study participants expressed satisfaction with U.S. video examples, future research studies may want to include more culturally appropriate and relatable videos. In addition, it is essential for practitioners to understand legal mandates of the Turkey so that legislative changes could be made in for transition planning.

Findings of this investigation also showed that the online delivery method was effective for pre-service teachers in the treatment group. Online delivery of information shows that online technology can be used for effective training by offering flexibility and individually-paced instruction. In-service teachers could easily fit this delivery method into the current curricula as
pre-service teachers. Further, cultural aspects of the country and the level of information are needed to start with community integration and attitudes before moving into CBI and transition programs. However, changing the special education content and offering courses by incorporating CBI and transition knowledge into educational programming in Turkey would be optimal for the future. Designing a course related to CBI and the transition process or one which includes CBI as the main subject would serve as an initial step. These findings are significant for designing the future of special education and have implications for the proper education of students with disabilities in the need for “planning and coordinating transition process” challenge of special education in Turkey as stated in the National Special Education Research Conference (2013).

Future research should include a larger sample size of both pre-service and in-service teacher participants to see if a larger sample would report any statistical differences. Although maintenance data were collected, generalization data would be helpful, and could be enhanced by including a wider range of activities and practices (Lifter, Ellis, Cannon, & Anderson, 2005). Future research should also include better reliability for the instruments because reliability estimates the amount of random measurement error.

Additional research is needed to reveal cultural conditions in Turkey related to preparing pre-service and in-service teachers related to the topic of CBI and how to deliver instruction in the community. Culturally-embedded training sessions with more culturally relevant components, videos and examples is warranted. It is also would be interesting to see if differences exist between teachers with students of varying levels of special needs since student characteristics may factor into the teachers’ acceptance of CBI and their willingness to implement the instruction.
Conclusion

This investigation included pre-service special education teachers in Turkey with the purpose of improving their knowledge related to CBI and further examined the effectiveness of an online training including three online modules. The modules were based on previous research surrounding the identification of critical components for the initial development of professional standards for special educators and other professionals related to CBI. Results of the study showed that the online training modules were successful for teachers concerning CBI knowledge and experience as evidenced by a significant increases in pre- to post assessment scores. Results also indicated that post-assessment scores of the treatment group participants were significantly higher than were their pre-assessment scores and were highly correlated with application assignments and time spent online.
References


Karal, M. A., & Wolfe, P. S. (in submission). In-service training for special education teachers working with students having developmental disabilities to develop effective transition goals. *Journal of Intellectual and Developmental Disabilities*


Appendix A
Tables

Table 1.
Demographics of Participants

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Treatment Group</th>
<th>Control Group</th>
<th>Total/Average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Female</td>
<td>44</td>
<td>73.3</td>
<td>35</td>
</tr>
<tr>
<td>Male</td>
<td>16</td>
<td>26.7</td>
<td>18</td>
</tr>
<tr>
<td>Mean Age</td>
<td>22.46</td>
<td></td>
<td>22.41</td>
</tr>
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Table 2.

*Training Schedule*

<table>
<thead>
<tr>
<th>Activity</th>
<th>Scheduled Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Meetings</td>
<td>10/30/18- 11/3/18</td>
</tr>
<tr>
<td>Pre-assessment</td>
<td>11/6/18- 11/13/18</td>
</tr>
<tr>
<td>Online-training*</td>
<td>11/13/18- 12/3/18</td>
</tr>
<tr>
<td>Module 1</td>
<td>11/13/18- 11/19/18</td>
</tr>
<tr>
<td>Module 2</td>
<td>11/20/18- 11/26/18</td>
</tr>
<tr>
<td>Module 3</td>
<td>11/27/18- 12/3/18</td>
</tr>
<tr>
<td>Post Assessment</td>
<td>12/4/18- 12/8/18</td>
</tr>
<tr>
<td>Total Length of Training</td>
<td>1 month (11/6/18-12/8/18)</td>
</tr>
</tbody>
</table>

* This section is for treatment group participants only.
Table 3.

Flowchart of Module 1

- What is Community-based Instruction (CBI)?
  - Importance of CBI
  - Module 1 Video1
    - CBI as an effective way to carry out instruction
      - Transition Planning
      - Performance-based Assessments
      - Ecological Instruction
      - Generalization
      - Age-appropriate skills
      - Problem Solving
    - Module 1 Video2
      - CBI vs. Field Trip
      - CBI Participants
  - CBI Stakeholders
    - Talking with stakeholders about CBI
      - CBI Benefits to
        - Student
        - Education personnel
        - Family
        - Community in general
    - Application Assignment 1
      - Writing a letter to family
    - Conclusions
    - Self-check questions
  - Module 2
Table 4.

*Training Content and Instruction Activities*

<table>
<thead>
<tr>
<th>Content</th>
<th>Instructional Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> Definition and importance of CBI</td>
<td>Assignment 1</td>
</tr>
<tr>
<td>CBI as an effective way to carry out instruction</td>
<td><em>Preparing a letter to parents for CBI benefits</em></td>
</tr>
<tr>
<td>Differences between other outside activities and CBI</td>
<td>Video 1.1</td>
</tr>
<tr>
<td>Participants in CBI, stakeholders in CBI</td>
<td>A young adult going through his transition planning</td>
</tr>
<tr>
<td>Research and literature related to CBI</td>
<td>Video 1.2</td>
</tr>
<tr>
<td>Benefits of CBI to students and other stakeholders</td>
<td>Young adults with disabilities who are working in a hospital and learning skills</td>
</tr>
<tr>
<td></td>
<td><strong>2</strong> Challenges and solutions when implementing CBI as administrative support, staff/parent concerns, lack of staff training and allocation, scheduling, liability, and budgeting</td>
</tr>
<tr>
<td></td>
<td><em>Identifying sites in the community</em></td>
</tr>
<tr>
<td></td>
<td>Video 2.1</td>
</tr>
<tr>
<td></td>
<td>Stories, interests and advices of adults with disabilities who are working in the community</td>
</tr>
<tr>
<td></td>
<td>Video 2.2 &amp; 2.3</td>
</tr>
<tr>
<td></td>
<td>Importance of communication and collaboration between stakeholders by young adults with disabilities and their employers</td>
</tr>
<tr>
<td>Appropriate CBI sites for students at transition age (after high school)</td>
<td>Assignment 3&amp;4</td>
</tr>
<tr>
<td>Resources and support systems</td>
<td><em>Analyzing a job site</em></td>
</tr>
<tr>
<td>Parents, administrators, other professionals</td>
<td><em>Analyzing a task analysis</em></td>
</tr>
<tr>
<td></td>
<td>Video 3.1</td>
</tr>
<tr>
<td></td>
<td>Interview with two individuals with disabilities about their jobs, responsibilities and independence</td>
</tr>
<tr>
<td></td>
<td>Video 3.2</td>
</tr>
<tr>
<td></td>
<td>Sheltered employment environment, opinions and advice of employers and families</td>
</tr>
<tr>
<td><strong>3</strong> Natural environments for community-based instruction</td>
<td></td>
</tr>
<tr>
<td>Strategies to promote independence in natural environments</td>
<td></td>
</tr>
<tr>
<td>Self-determination strategies students need in the community (seeking immediate assistance, personal accommodations, personal and citizen rights, and AAC)</td>
<td></td>
</tr>
<tr>
<td>Assessment, assessment process and appropriate evaluation of CBI</td>
<td></td>
</tr>
</tbody>
</table>
Appendix B
Figures

Figure 1. Relationship between total assignment scores and post-assessment scores

Figure 2. Relationship between time spent online and post-assessment scores
Appendix C

Information Letter to Coordinator

Dear Practicum/Program Coordinator,

I am a PhD student in the Educational Psychology, Counseling, and Special Education Department at Pennsylvania State University. With my co-advisor, Dr. Pamela S. Wolfe, I have developed an online training on community-based instruction/transition planning for senior special education students. Because transition planning is mandated but little training currently exists, I believe this training offers preservice teachers information to make an important first step in helping students with disabilities gain greater independence.

I am asking for your help to identify pre-service special education teachers at your institution who will be enrolled in practicum placements in fall, 2017. If you agree to help, I will ask you to distribute the e-mail to your senior student teachers describing the online training program. The training encompasses 3 modules that include text-based information, embedded videos as well as application activities. Each module takes approximately 2 hours to complete.

The training will be scheduled to be completed in four weeks beginning in November. On weekdays, participants will complete a module. On weekends they will complete an application assignment. The modules can be completed by your students after school in the evenings and on weekends thus not interfering with their practicum placement.

The modules will be embedded in a new webpage created for the online training only. Your students will be asked to complete a) a demographic form; b) a pre and post assessments (online); c) an application assignment; and d) a satisfactory survey. A participation certificate will be provided for students who completed the training. Your students’ participation will be voluntary; they can choose to withdraw at any point during the training without penalty.

I hope that you and your students are interested in the online training. I believe it offers an opportunity to learn new skills that will foster the education of students with disabilities. I will follow up this e-mail with a phone call at a specific time at your convenience, please let me know (muhammedkaral@gmail.com) If you have any questions at any time, please contact me at the information, I’d be happy to answer your questions.

Thank you in advance for your help. I am hopeful we can collaborate together on this important project!

Sincerely,

Muhammed A. Karal
Yenimahalle Mah. Ismet Inonu Bulvari Huzur Apt. No:149/7
Atakent, Samsun, TURKEY
E-Mail: mak523@psu.edu
Phone: (507) 141-7437
Appendix D
Group meeting Agenda

- Purpose of the online training,
- Informed consents,
- Technical requirements,
- Reaching the webpage,
- Reaching the investigator,
- Submitting assignments,
- Online training schedule with assessments, assigned workdays, and activity assignments
- Availability of modules and assigned times for assessments
Appendix E
Consent Form

Title of Project: Effects of Online Training on Community-based Instruction for Pre-service Special Education Teachers

Principal Investigator: Muhammed A. Karal
Department of Educational Psychology, Counseling, and Special Education
111 Cedar Building, University Park, PA, USA. 16802.
(251) 269-3224 mak523@psu.edu

The purpose of this project is to develop and deliver an online training for pre-service senior special education teachers about community-based vocational instruction and improve their skills related to community-based instruction. This is a research project being conducted by The Pennsylvania State University, Department of Counseling, Educational Psychology and Special Education. You have been invited to participate in this research project because you currently are a pre-service senior special education teacher who is enrolled in a practicum program.

Your participation in this online training is voluntary. You may choose not to participate. If you decide to participate in this research, you may withdraw at any time. If you decide not to participate in this study or if you withdraw from participating at any time, you will not be penalized. If you complete the study, you will be provided a participation certificate.

You will be asked to watch 3 modules about community-based instruction and complete a pre and post-assessment and an application assignment related to the training. In addition, you will be asked to complete a demographic form and a satisfaction survey about the quality of the training. There will be 3 modules and each module will take approximately 2 hours to complete while the pre and post assessments will take approximately 30 minutes.

To help protect your confidentiality, the assessments will not contain information that will personally identify you. Your responses will be confidential, and we do not collect identifying information such as your name, email address, or any other personal information. The results of this study will be used for scholarly purposes only and may be shared with Pennsylvania State University representatives.

Signing this document means that the study, including the above information, has been described you orally, and that you voluntarily agree to participate.

___________________________________  ____________________
Participant Signature             Date
Appendix F
Pre-Service Teacher Demographic Form

A1. Female ............
    Male ............  Age ............

A2. What is the disability category of students with whom you currently work in your practicum setting? (Check all that apply)

- [ ] Mild ID
- [ ] Moderate ID
- [ ] Severe ID
- [ ] Autism Spectrum Disorder
- [ ] Other Impairments (please list) .........................

A3. What is/are the grade level(s) of students with disabilities with whom you currently work in your practicum settings?

- [ ] 1st-4th
- [ ] 4th-8th
- [ ] 8th-12th

A4. What prior experience have you had with students with disabilities OTHER than your practicum program?

- [ ] None
- [ ] Spending time with student
- [ ] Private Teaching Practice
- [ ] Family member
- [ ] Other (please list) .....................

B1. Rate your prior knowledge or experience related to transition planning for students with disabilities.

- [ ] None
- [ ] Poor
- [ ] Fair
- [ ] Good
- [ ] Very

B2. What kind of training have you received related to transition?

- Workshop ............
- University Course (list course name) ............
- Conference ............
- Other (please list) ............
B3. Rate your level of prior knowledge or experience related to community-based instruction

☐ None  ☐ Poor  ☐ Fair  ☐ Good  ☐ Very Good

B4. What type of training have you received about community-based instruction?

Workshop ............ University Course (list course name) ............
Conference ............ Other (please list) ............

C1. What is your confidence level for carrying out teaching in the community?

☐ Poor  ☐ Fair  ☐ Good  ☐ Very Good

C2. What is your confidence level for preparing students with disabilities to transition from school to the community?

☐ Poor  ☐ Fair  ☐ Good  ☐ Very Good

C3. At this point in your pre-service career, what do you think the advantages and disadvantages are for conducting instruction in the community?

C4. Once you are employed, would you be willing to teach your students in community settings?
Appendix G
Community-based Instruction Pre-Post Assessment Form

1. Community-based Instruction (CBI) pertains only to employment goals.  
2. A student’s diagnosis is more important than his/her preferences and strengths when getting a job.  
3. The ultimate consumer of Community-based Instruction (CBI) is society.  
4. Student with disabilities in school should spend all their times in community-settings.  
5. Assistant teachers and therapists are not accepted as between resources and support systems are needed for CBI.  
6. One of the best benefit of Community-based Instruction (CBI) is generalization.  
7. There are vocational rehabilitation services available for students with disabilities after student’s graduate from high school.  
8. One of the solutions for student-teacher ratio problem in CBI is asking family members to volunteer.  
9. Scope of worksite analysis include person, environment and employer.  
10. Community-based Instruction (CBI) is not an appropriate method for increasing independence of students with pervasive support needs.  
11. Students must state their needs and preferences whenever goals are discussed.  
12. Functional goals relate best to nonacademic subjects.  
13. While students and a teacher is in the community for an instruction, student-teacher ratio is 1-4 at most.  
14. Needed resources to support community-based instruction (CBI) are not parents and employees only.  
15. Transition planning is mandated to begin by age 13.  
16. It is important to have information gained from ecological inventory to decide which community location is the best for student.  
17. Stadiums, government agencies and hospitals are examples of natural environments in which community-based instruction can take place.  
18. Reading the situation, solving problems, self-monitoring and asking assistance are non-academic independent skills students need in the community.  
19. Portfolio assessments and anecdotal notes are not included between appropriate assessment tools for community-based instruction.  
20. If CBI provides an effective instruction in the natural environments, then it should be used as a strategy to support transition planning.
Appendix H

Application Assignment Grading Rubrics

Module-1 Application Assignment

Prepare a letter to parents for CBI instruction benefits.

*Contains introduction (2 pts)*

*Gives information and two benefits of CBI for child (4 pts)*

- Increase appropriate social and community behaviors
- Development of specific skills critical to the individual’s independent functioning within the community
  - General increase of independence in community mobility
  - Development of age appropriate social skills to complete community transactions
  - Development or skills and work habits appropriate to employment settings

*Gives information and one benefit of CBI for family (2 pts)*

- Increased parental and caregiver commitment and involvement in program planning
- Increased parent and caregiver responsibility in the identification of skills which a student needs to function within the community

*Gives information and one benefit of CBI for society (2 pts)*

- Increased positive community awareness of individuals with disabilities
- Increased partnership or the private sector by cooperatively providing instructional settings appropriate to individuals with disabilities

Module-2 Application Assignment

Identify a job-site in the community.

- Find a location in your community and state two different tasks for which your student will be responsible
- Include a rationale for these two different tasks (how and why they are important)
- State how these two tasks could be generalized to other (academic, social, self-care, etc.) areas
- Describe the student and include two adaptations for your student in that specific location.

**Finding the location and stating both tasks for the student (2 pts)**

**Rationale for choosing the two tasks (2 pts)**

**Generalization to other areas for the two tasks (3 pts)**

**Description of student and two adaptations for student (3 pts)**

**Module-3 Application Assignment 1**

Analyze a job-site in your community.

- Choose a job-site in your community.
- Include reasons for your selection by stating your student’s needs and interests.
  - Fill-out the attached job-site form
  - Include potential tasks in the site for your student
  - Fill-out the environmental conditions chart for these tasks
  - Include (at least four) adaptations and support systems according to environmental conditions

---

**Job Site Form**

1. Job-site Name: ............................................................................................................

2. Job-site Address: ......................................................................................................

3. Description and purpose of the job-site: .................................................................
   ........................................................................................................................................
   ........................................................................................................................................

4. Your student’s responsibility:
   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................

5. Your student’s job description: ....................................................................................
   ........................................................................................................................................
   ........................................................................................................................................
### Environmental Conditions Chart:

<table>
<thead>
<tr>
<th>Environments</th>
<th>Physical Environment</th>
<th>Temporal Environment</th>
<th>Personal Environment</th>
<th>Social Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tasks/Jobs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Filling out the Job Site Form (2 pts)

**Analyzing Job Site according to information provided in the module 3:**

a) Potential tasks can be performed by the student in the Job Site (2 pts)

b) Environmental conditions (2 pts)

- Preparing environmental conditions (physical, temporal, personal, and social) table about what student will be doing in the job site (one of the potential tasks).

c) Possible adaptations and accommodations in the job site and chosen task (2 pts)

d) Needed adaptations and support systems in the site and related to chosen task (2 pts)

### Module-3 Application Assignment 2

Analyze the given task-analysis. Use the checklist provided in the Module 3.

a) **Clear, concise and positive language** (3 pts)

b) **Each step stated as a verbal prompt to be use** (2 pts)

c) **Measurable and observable verbs** (3 pts)

d) **Sequence of smaller steps in order** (2 pts)
Appendix I
Online Training Satisfaction Assessment

<table>
<thead>
<tr>
<th>Please mark the appropriate answer for each question.</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither A/D</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The content met your needs and expectations.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The content improved your knowledge about topic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The content was well organized.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Length of the training was appropriate.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application assignments included in the training were appropriate.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application assignments were informative and well-prepared.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator responded participant’s questions in time and appropriately.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thank you for contribution today. We would be very grateful if you could provide feedback on your experience in the workshop to help us improve.

1. What topic addressed was most important?

2. What aspects of the online training worked well?

3. What aspects of the online training could be improved?
Appendix J

Review of Relevant Literature

Introduction

Community-based Instruction (CBI) is a strategy that provides community experiences for students with disabilities in which to practice and learn functional skills in natural environments frequently used by individuals without disabilities (Pickens & Dymond, 2015; Steere & Dipipi-Hoy, 2012). CBI has been referred to as a community-based work experience program, community-based learning, and most commonly community-based instruction, and community based vocational instruction (CBVI). CBI is a broader term than community-based vocational instruction, which refers only to vocational or non-vocational skills in community settings (Dymond, 2012).

CBI is one of the most common strategies used for students with disabilities in order to gain experience in the community (Steere & DiPipi-Hoy, 2012). Although CBI can occur at any time in the student's school program, typically it is intensified in the last two years of high school before the student transitions out of formal schooling (Kim & Dymond, 2010). Functional skills that are targeted in natural environments are linked to objectives on the Individualized Education Program (IEP) and taught using systematic instruction. A central feature that distinguishes CBI from other community outings such as field trips is its linkage to the student’s IEP objectives (Beakley, Yoder, & West, 2003). Objectives delineated in the IEP are carried out in the community, and data are then recorded. In this way, then, CBI is individualized for each student.

Importance of CBI

Community-based instruction is important for students with disabilities of all ages because it ensures that students acquire skills that enhance their independence. CBI permits students with disabilities to practice skills they need in natural settings and they thereby can
generalize them to other environments (Walker et al., 2010). Many teachers use simulations and mock situations to teach functional skills. However, replicating situations that occur in the natural environment is difficult. For example, stimuli such as loud noises, different smells, and many other distractions can occur that inhibit the learning for these students or may invoke hyper selectivity.

Skills cannot be considered mastered until they are performed by the student in the setting where they are needed (Dymond, 2012). Because CBI takes place in the community, students can perform the targeted skill in natural environment under natural conditions.

Students with disabilities often experience difficulty acquiring community skills and fail to generalize what they learned to a community setting without specific, targeted instruction in the community. The other importance of CBI in transition is the amount of time devoted to teaching community skills to students with disabilities. When the desired outcome for a student with a disability is successful transition to after-school life and employment, scheduling systematic instruction in the community is essential. As a part of repeated instruction on their unique and specific IEP goals, CBI is important for students with disabilities to enable them to benefit from variety of experiences and choices to increase their ability to function independently in the community (Cihak, Alberto, Kessler, & Taber, 2004).

Other positive outcomes of CBI include opportunities to interact with peers and the ability to have greater access to community venues important to the family and student (Carter, Austin, & Trainor, 2011). Families and the community in general will notice that students with disabilities who receive their instruction in the community are much better prepared for after-school opportunities. Despite the positive outcomes associated with CBI there often are barriers that include both attitudinal and logistical concerns (Beakley et al., 2003). One of the biggest barriers to implementation of CBI is lack of administrative support. Without administrative support the CBI program may not be able to be started or sustained.
One way to gain administrative support is through examples of successful programs and appropriate and planned standards and procedures (Beakley et al., 2003; Nietupski et al., 1988). Another barrier in the way of implementation is staff and parent concerns. Encouraging family members and staff to think about the student’s future life and instructing both groups on the benefits of CBI in that it can offer the student a higher quality of life is one solution. In addition, liability is another issue, one which can be solved by having teachers and other personnel know their roles and responsibilities related to liability. Scheduling and budgeting are other barriers or concerns in the way of CBI implementation for teachers; however, administrative support would be critical to prevent these potential problems. It is important to know potential issues for implementing a strategy in order to avoid any potential roadblocks along the way. There are many other solutions for each barrier but parental agreement, communication, and collaboration, training sessions for all concerned personnel, and especially administrative support are key factors to success. Family participation, student-to-teacher ratio, and specification of roles and responsibilities are also essential to reach and maintain successful CBI outcomes.

Research Related to CBI

CBI has been successfully implemented to teach a variety of functional and vocational skills such as the following: using the bus, using a debit card (Alberto, Cihak, & Gama, 2005; Cihak, Alberto, Taber-Doughty, & Gama, 2006), grocery shopping (Bates, Cuvo, Miner, & Korabek, 2001; Cihak, Alberto, Kessler, & Taber, 2004; Morse & Schuster, 2000), calling for assistance (Taber, Alberto, Hughes, & Seltzer, 2002), and juice and sandwich making (Murzynski & Bourret, 2006).

Research related to transition services frequently has included CBI. For example, Benz and his colleagues (2000) noted that participation in vocational instruction and community-based work experience programs, especially during the last two years of high school, were
positively associated with performance, completion rates from high school, and employment rates. The authors also stressed that analyzing job sites and using occupationally specific instruction are associated with successful after-school outcomes. A study conducted by Luecking and Fabian (2000) examined the relationship of participant variables to transition outcomes for students with disabilities participating in community-based work programs. Their findings underlined the significance of the structured community-based instruction for all student with disabilities. A study by Rabren et al. (2002) examined the employment status of former special education students. These authors summarized that positive employment outcomes were attained from high-school instructional programs taking place in the community. Several researchers have investigated the effects of CBI for teaching job skills to students with disabilities. In Cihak and his colleagues’ study (2008), students’ ability to independently transition between specific work tasks in a grocery store, at a restaurant, or department store increased from 0% to a mean of 86%. In another study by Heller and her colleagues (1996), all four students reached the pre-determined criteria using the targeted skill on job-sites. Including analysis of a job-site and a task in a specific location for the CBI training is significant to improve teachers’ knowledge and skill practice.

Community-based transition programs also appear to be more cost-efficient when assessing post-school outcomes of students with disabilities. For example, student who did not have quality transition plans in school were found to be more frequently employed in low-demand career fields and also lacked community-based instruction experiences, and access to career and technical programs (Daviso, McMahan-Queen & Baer, 2010). Further, transition services in the community were more cost-efficient than in-school services only or received no transition services (Cimera, 2010).
Attitudes Toward Using CBI

Teachers’ attitudes toward implementing CBI generally have been positive; the majority of teachers have stated that instruction that occurs in a community setting will help students prepare for after-school life, enable them to generalize skills across settings, increase social interaction, communication and independence, and improve students’ self-worth and success (Agran et al., 1999; Langone, Langone, & McLaughlin, 2000). Kim and Dymond (2010) researched high-school special education teachers’ experience teaching a vocational curriculum. Teachers noted that students learned work behaviors and job skills, increased independence, and gained opportunities to interact with students without disabilities. In the study conducted by Pickens and Dymond (2015), special education directors supported the use of CBVI despite reported barriers of insufficient staff and inadequate public transportation. Even if there are only a few studies conducted related to attitudes of professionals about CBI, these positive findings create a great advantage for future CBI implementation.

CBI in Turkey

The Children with Special Education Law- No. 2916 enacted in 1983 has provided initial mandates for the education of children with special needs; the decree represents Turkey’s first special education law (Melekoglu, 2014). In 1997, the Special Education Decree Law (No. 573 with amendments in 2006 and 2012) was enacted. Through this decree law and its amendments, special education services and supports were further improved by delineating special education categories and defining terminology (Diken & Batu, 2010). The decree outlined the goals of special education as well (Melekoglu, 2014). Many special education regulations and provisions are still in force today creating opportunities for individuals with disabilities to become productive members of the society (Vuran & Unlu, 2012). One of the central goals for students with disabilities highlighted in the decree is post-
school education, independent living, and employment. Despite the fact that many laws and regulations related to special education in Turkey have been influenced by U.S. laws and regulations (e.g. least restrictive environment, individualized education programs, and inclusion), transition planning is not mandated, and CBI is not a commonly used strategy by special education teachers (Melekoglu, 2014).

In Turkey, students with special needs are educated in segregated centers until the age of 23 without receiving any transition services or CBI. In the schools, students have IEP goals, but they typically are academic goals geared toward academic acquisitions. Even if these goals are named as “Individualized”, they are mostly similar for all students and are therefore, non-functional. Two of the most critical challenges identified in the National Special Education Conference held in Turkey in 2013 was the need for job training and placement of individuals with disabilities, and the need for planning and coordinating transition processes (Ozel Egitim Arama Konferansi, 2013). A useful first step toward a formal transition process would include the implementation of CBI in Turkey through training pre-service and in-service teachers about community integration.

In the pilot study conducted by Karal and Wolfe (in submission), in-service special education teachers were provided with knowledge about transition planning and goal development for students with disabilities. The study took place in a Special Education Job Practice School with 22 participants. The results revealed that special education teachers had not received any training related to transition planning or community placement. The majority of participants (90.9%) lacked knowledge about both CBI as an instructional strategy and transition related activities for students with disabilities (Karal & Wolfe, in submission). Findings of the study served to suggest that a logical first step in implementing transition process and community integration is properly training pre-service educators about all the components of CBI.
CBI Training Content

Critical components of CBI training have been identified by several researchers (e.g., Beakley & Yoder, 1998; Beakley et al., 2003; Nietupski et al., 1988; Walker et al., 2010). These critical components were separated into three modules for the training. Module contents were structured in the TSTA model and included videos, examples and application assignments in addition to the text-based information. Text-based information is formed in short paragraphs with critical components identified by previous research and literature. The information in three modules were separated into definitions, components and stakeholders of CBI; challenges and solutions, and essential steps to utilize CBI; and natural environments and strategies with assessment process and evaluation of CBI, respectively.

Because many CBI instruction centers on work experiences with the goal of finding paid employment prior graduation (Dymond, Renzaglia, & Hutchins, 2014), CBI training for teachers should include the necessary knowledge about job-sites where CBI can take place. In addition to the knowledge about job-sites, systematic and ecological instruction and performance-based assessments are essential parts to include in the training. Further, how to perform job-site and task-analysis in locations where CBI most frequently takes place is critical.

CBI Training Delivery

Online trainings may be implemented via either asynchronous communication which involves students access at any location and at any time, or synchronous communication which involves students access from any location but only at a specific time (Lebel, Olshtain, & Weiss, 2005). Whatever the communication method, online trainings have several goals including the following: a) increasing the accessibility to content, b) responding to students needs in a more flexible learning environment, c) enhancing students’ motivation and involvement to the content, and d) increasing the relevance of content to students (Collins,

Online training, as a delivery method, provides content for a group of individuals who have specific training needs. Other than targeted information, effective online instruction includes several elements. Effective online training should include the use of video models (Whalen et al., 2009), multiple checks for understanding (Lebel, et al., 2005), text-based information (McKeown & Howard, 2012), self-assessment questions and activities (Sharma et al., 2016), and real-world applications of the content (Huang, 2002).

Researchers have noted some downsides of an online training experience while others have highlighted many advantages. One concern of online training relates to the considerable amount of resources including time, effort, and finances (Nachmias, 2002). In addition, the need for technical skill competency, selection of a software system, and/or suitability of the content have been noted as potential downsides to an online training program (Collins et al., 2002; Nachmias & Segev, 2003). Moreover, the evaluation of the structure of the course content and its effectiveness on the learning process sometimes is more difficult (Zaian & Luo, 2001).

Positive aspects of online training/education include flexibility and the ability to reach audiences in different locations (Dowden, 2000; Lebel et al., 2005; Zangari, Finch, & Fahey, 2004). Further, because the use of the Internet as an instructional tool is rapidly increasing, it may be of benefit to train future teachers with methods and tools that are similar to those they will use with their own students (Delfino & Persico, 2007). Additionally, they should be given the opportunity to become more acquainted with different forms of technology because pre-service teachers are more likely to use technology and instructional methods (Delfino & Persico, 2007).
Conclusion

CBI is a strategy that provides community experiences for students with disabilities to practice and learn functional skills in natural environments. CBI, as an instructional strategy, is one of the most common strategies for students with disabilities of all ages and is significant for them to gain experience in the community and give them skills that enhance their independence. CBI has been successfully implemented to teach a variety of functional and vocational skills and, therefore, teachers have stated that CBI helps students prepare for after-school life, enables them to generalize skills across settings, increases social interaction, communication and independence, and improves students’ self-worth and success. In spite of many laws and regulations related to special education in Turkey, transition planning is not mandated, and CBI is not a commonly used strategy by special education teachers. A training for pre-service special education teachers about CBI is employed as the first step in implementing the transition process and community integration. The training for pre-service teachers included critical knowledge and online technology as the delivery method. CBI training in Turkey represents means for pre-service teachers to begin to integrate individuals with disabilities into the community. The online format offers a means to integrate the content into useful information for both pre-service and in-service teachers.
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VITA
Muhammed A. Karal

EDUCATION

Ph. D. in Special Education
The Pennsylvania State University 2018

M. S. in Special Education
The Pennsylvania State University 2014

B. S. in Teacher of Students with Disabilities/ Special Education
Gazi University in Turkey 2010

PROFESSIONAL EXPERIENCE

Sep. 2016- May.2017 Graduate Assistant (Special Education), The Pennsylvania State University. University Park, PA.


Jun. 2010- Jul. 2011 Igi Private Special Education School for students with ASD Full- Time Teacher

PUBLICATIONS


