University Instructors’ Self-efficacy Belief to Provide Instructional Accommodations for Addressing the Educational Needs of Students with Disabilities in Ethiopian Universities: Implication on Quality of Higher Education

*Abdreheman Seid

Abstract: The purpose of the study was to assess the role of university instructors and their self-efficacy belief in providing instructional accommodations for addressing the educational needs of students with disabilities through employing a variety of instructional designs and strategies. Accordingly, questionnaires were distributed to a total of 181 university instructors from Jimma, Addis Ababa, Adama and Ambo Universities. Qualitative and Quantitative data were generated and the methods of data analysis were employed to analyze the data. The result indicated that in general instructors have moderate role and fairly strong self-efficacy belief to provide instructional accommodations through utilizing a variety of instructional designs and strategies. Concerning the effect of background variables on instructors’ self-efficacy belief, the result revealed that background variables like location of university, in-service special needs training, and awareness raising training in inclusive training had statically significant effect on instructors’ self-efficacy belief to provide accommodations for students with disabilities in universities. However, background variables like gender, age, faculty, total teaching experience, educational status, pre-service Special Needs Education (SNE) course, teaching methodology training, awareness raising training on SNE and experience in teaching students with disabilities do not have a statistically significant effect on instructors’ self-efficacy belief. Furthermore, in assessing the underlying factor structures of self-efficacy belief scale principal component analysis (factor analysis) revealed the presence of four components as underlying factor structure of the sale. Finally, implications of the results in relation to quality of higher education were discussed and recommendations were also indicated.

Key terms: Self-efficacy belief, instructional accommodations, higher education, educational needs

*Abdreheman Seid (PhD) Mizan_Tepi University, Department of Psychology Tel: +25 19 12 04 14 20 Email: abdreheman_seid@yahoo.com
1. Introduction

The term self-efficacy has emerged in the field of psychology and related fields since the publication of Albert Bandura’s 1977 Psychological Review article titled “Self-Efficacy: Toward A Unifying Theory of Behavior Change.” The theoretical foundation of self-efficacy belief is originated in social cognitive theory, developed by Stanford professor Albert Bandura (1977, 1997). Self-efficacy belief is defined as people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances (Bandura, 1986). The concept of self-efficacy belief describes a system of beliefs that a person holds regarding his or her self-perceived ability to change while performing a specific or general task (Bandura, 1997). Self-efficacy provides information about an individual’s capabilities regarding specific tasks situated in particular circumstances before the individual engages in executing a course of action or engages in behaviors (Bandura, 1997; Pajares, 1997). In other words, self-efficacy beliefs are highly predictive of human behavior and affect people in a variety of ways (Pajares, 1996).

However, self-efficacy beliefs do not focus on the skills an individual possesses. Rather self-efficacy belief focuses on what that individual believes he or she can do with those skills through adaptation across many situations. It does not refer to a person’s capabilities or skills, only what the person believes he or she is capable of accomplishing under certain circumstances (Dellinger, 2001; Bandura, 1997; Pajares, 1997). According to Maddux (2000), self-efficacy is not perceived skill; it is what I believe I can do with my skills under certain conditions. It is not concerned with my beliefs about my ability to perform specific and trivial motor acts, but with my beliefs about my ability to coordinate and orchestrate skills and abilities in changing and challenging situations.

In addition, self-efficacy beliefs are not simply predictions about behavior. Self-efficacy is concerned not with that I believe I will do but with what I believe I can do (Maddux, 2000). Self-efficacy beliefs are not casual attributions. Casual attributions are explanations for events, including my own behavior and its consequences. Self-efficacy beliefs are my beliefs about what I am capable of doing (Maddux, 2000). In addition, self-efficacy beliefs are not outcome expectancies or behavior-outcome expectancies.
Behavior-outcome expectancy is my beliefs that a specific behavior may lead to a specific outcome in a specific situation. A self-efficacy belief, simply put, is a belief that asserts “I can perform the behavior that produces the outcome” (Maddux, 2000).

Self-efficacy affects individuals in diverse ways. According to Bandura (1994) self-efficacy beliefs determine how people feel, think, motivate and behave themselves. In addition self-efficacy belief affects thought patterns and emotional reactions. Such belief produces these diverse effects through four major processes. They include cognitive, motivational, affective and selection processes (Bandura, 1994). A strong sense of efficacy enhances human accomplishment and personal well-being in many ways (Bandura, 1994). For example, Pajares (1996) stated that a person with a well-developed sense of efficacy will believe strongly in his or her capacity, to carry out a task, invest effort in the activity, persist in the face of difficulty and have an optimistic outlook. Bandura (1998), also asserted that self-efficacy beliefs affect an individual’s choice behavior. He added that the stronger the perceived self-efficacy the more vigorous and persistent are a person’s efforts.

On the other hand, researchers like Pajares (1996), argued that people with low level of self-efficacy have little confidence in their capacity to carry out a task, and this can result in avoidance of difficult tasks, low aspiration, weak commitment and pessimistic outlook. Bandura (1994, 1998), also asserted that individuals with low self-efficacy tend to believe that things are tougher than they really are. This creates stress and narrow vision of how best to go about the problem. He further argued that people tend to avoid engaging in a task where there efficacy is low, and generally undertake tasks where their efficacy is high. Bandura (1986, 1997) hypothesized four sources of efficacy building information: mastery experiences, vicarious experiences, social persuasion, and physiological or emotional arousal.

In summary, self-efficacy belief was understood and defined in this study as instructors’ judgments of their capabilities to organize and execute courses of action required attaining designated types of performances, for example to provide instructional accommodations (Bandura, 1986, 1997). Instructors with high self-efficacy beliefs tend to have confidence in their capabilities to face difficulties related with adapting instruction for students with
disabilities than give up more easily. They are more likely to engage in and
invests on their maximum effort in accommodating these students in
universities. They also have high skills in planning and organizing
instructional activities and classroom management, employing a variety of
instructional strategies and adaptations to address the diverse needs of
students with disabilities in the university.

1.1 Role of Instructors in Providing Instructional Accommodations
According to Colorado State University accommodation guideline (2010)
university instructors have the following roles or responsibilities related to
provision of instructional accommodations;

- Implementing best practices in teaching to reach a diversity of learners
- Sharing information on how students can request an accommodation
  (Many universities and colleges require that an accommodation statement
  be included on every syllabus. Check with your DSO about the
  accommodation procedure on your campus.)
- Working with the Disability Service Office and with students with
disabilities to make reasonable accommodations in a timely manner
- Having an awareness of campus resources available for students and
  faculty
- Maintaining confidentiality

1.2 Statement of the Problem
Currently, in Ethiopia there are 33 public universities (MoE, 2011, 2012).
Although the Government of Ethiopia has given great emphasis to the
expansion of higher education sector, there are paucity of studies on the
provision of support services and accommodations for students with
disabilities in universities. A study conducted by Yared (2008), showed that
the available provisions of instructional accommodation and support in
Ethiopian universities for students with disabilities, if any, is negligible.
Except Addis Ababa University, even most Ethiopian higher education
institutions do not have any explicit policy regarding the provision of support
and accommodations for students with disabilities (Yared, 2008).

Therefore, bearing in mind about the positive impact of instructional
accommodations on the academic achievement of students with disabilities
in the universities (Skinner, 2004, Leyser, Vogel, Brulle, & Wyland. 1998),
in general, this particular study intended to assess whether instructors have strong self-efficacy belief to provide instructional accommodations for students with disabilities in some selected universities of Ethiopia. More specifically, this study had the following research questions.

1.3 Research Questions

1. What are the major roles of instructors in providing instructional accommodations for students with disabilities?
2. What is the extent of instructors’ self-efficacy belief to provide instructional accommodations for students with disabilities?
3. What is the relation between demographic variables and instructors’ self-efficacy belief to provide educational accommodations for students with disabilities?
4. What are the underlying factor structures of self-efficacy belief to provide instructional accommodations for students with disabilities scale?

3. Method

3.1 Participants

From four Ethiopian universities consisting of 504 university instructors a target group of 181 (35.9 %) instructors were sampled. To select these participants, first the list of all female and male instructors was identified separately from each university. Secondly, to determine the number of participants, proportional stratified sampling technique was used. Thirdly, participants from male and female groups were selected randomly by using a lottery method. Thus, 66 instructors from Jimma University, 52 instructors from Addis Ababa University, 31 instructors from Adama University, and 32 instructors from Ambo University were selected randomly.

3.2 Instrument

A questionnaire with a total of 30 Self-efficacy belief survey items was developed based on a comprehensive review of literature dealing with instructional accommodations in general and accommodation in the tertiary education in particular. In order to develop the questionnaire, three step procedures were pursued. Firstly, a pool of items, 55-68 statements was generated. Secondly, in order to establish sufficient content and face validity, the items of the questionnaire were given with detailed instructions to experts to comment the items. Thirdly, pilot study was conducted to refine,
accept and discard the items as well as to test reliability of the questionnaire. Finally, the main survey study was conducted with 30 items of 4-point Likert scale to measure the level of instructors' willingness to provide accommodations. In addition 12 numbers of instructors were interviewed about their role related to provision of instructional accommodations.

3.3 Data Collection Procedure
The quantitative data was collected in the years 2012/13 by the researcher and two trained assistants. Before dissemination of questionnaires the participants were instructed to fill the questionnaire carefully. The questionnaires were administered to participants at each university and collected by the researcher and assistants after two days of the distribution questionnaires. The interview was recorded using tape recorder.

3.4 Data Analysis
SPSS computer program was used to analyze the quantitative data. Based on research questions, inferential statistic, and analysis of variance (MANOVA) were employed. In addition, in order to explore the underlying factor structure of self-efficacy belief scale, Exploratory Factor Analysis (EFA) was used. The qualitative data were analyzed thematically.

4. Results
4.1 Instructors’ Self-efficacy Belief about the Provisions of Instructional Accommodations

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>n</th>
<th>mean</th>
<th>SD</th>
<th>Mean</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-efficacy Beliefs</td>
<td>181</td>
<td>81.69</td>
<td>10.16</td>
<td>60</td>
<td>108</td>
</tr>
</tbody>
</table>

As shown in Table 1, participants’ self-efficacy beliefs score ranged from 60 to 108. The instructors’ self-efficacy mean score was equal to 81.69 which is greater than 75 (30 items x 2.5) measured in a 4-point Likert scale. A self-efficacy mean score value of 81.69 indicates that in average instructors had strong self-efficacy beliefs to provide instructional accommodation for students with disabilities in the universities.


4.2 Relationship between Background Variables and Self-efficacy Beliefs to Provide Instructional Accommodations

Table 2 Univariate Analysis of Variance of Instructors’ Background Variables and Participants’ Self-efficacy beliefs Score.

<table>
<thead>
<tr>
<th>Instructors’ background variables</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Jimma</td>
<td>66</td>
<td>79.55</td>
<td>8.55</td>
<td>3.177</td>
<td>6.23</td>
<td>P=0.001</td>
</tr>
<tr>
<td>Addis Ababa</td>
<td>52</td>
<td>86.40</td>
<td>10.16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adama</td>
<td>31</td>
<td>78.81</td>
<td>9.93</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambo</td>
<td>32</td>
<td>81.25</td>
<td>11.14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awareness training on IE</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Those who took</td>
<td>34</td>
<td>85.50</td>
<td>10.37</td>
<td>1.179</td>
<td>6.05</td>
<td>P=0.015</td>
</tr>
<tr>
<td>In-service training on SNE</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Those who didn’t take</td>
<td>147</td>
<td>80.81</td>
<td>9.94</td>
<td></td>
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</tr>
</tbody>
</table>

Note: SNE = Special Needs Education, IE = inclusive education

As shown in Table 2, one-way ANOVA analysis indicated that there was a statistically significant self-efficacy mean score difference between groups of background variables like location of university, awareness raising training on IE and in-service training on SNE. In the contrary, there was no a statistically significant self-efficacy mean score difference between groups of background variables like gender, age, faculty, total teaching experience, educational status, SNE course, teaching methodology training, awareness raising training on SNE and experience in teaching students with disabilities.

Post-hoc comparisons of groups using Turkey-HSD test indicates that the self-efficacy mean score of instructors from Addis Ababa university (M = 86.40, SD = 10.16) was significantly higher than instructors from Jimma University (M = 79.55, SD = .58) and Adama University (M = 78.81, SD = 9.93). However, there was no a statistically significant self-efficacy mean score difference between instructors form Ambo and Jimma University, Ambo and Addis Ababa University as well as Ambo and Adama University.

4.3 Underlying Factor Structures of Self-efficacy Beliefs Scale

The 30 items of self-efficacy beliefs scale were subjected to Principal Components Analysis (PCA) using SPSS version 20. Prior to performing
PCA, the suitability of data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of 0.3 and above. The Kaiser-Meyer-Olkin value was 0.63, exceeding the recommended value of 0.6 (Kaiser, 1970, 1974) and Bartlett’s Test of Sphericity (Bartlett 1954) reached statistical significance, \( P = 0.001 \) supporting the factorability of the correlation matrix.

Principal component analysis revealed the presence of 10 components with Eigen values exceeding 1, explaining a total of 66.26% the variance. An inspection of the scree plot revealed a clear break after the fourth component. Using Catell’s (1966) scree test, it was decided to retain the four components for further investigation.

The four-component solution explained a total of 40.22% of the variance, with component 1 contributing 15.56%, component 2 contributing 12.29%, component 3 contributing 6.56% and component 4 contributing 5.80%. To aid in the interpretation of these four components, Varimax rotation (orthogonal rotation – uncorrelated factor solutions/ no correlation between extracted factors) was performed. The rotated solution revealed the presence of simple structure (Thurston 1947), with all components showing a number of strong loadings and all variables loading substantially on only one component.

The interpretation of the four components was that: self-efficacy beliefs of teaching methodology accommodation items loading strongly on component 1, self-efficacy beliefs of communication accommodation items loading strongly on component 2, self-efficacy beliefs of material/environmental accommodation items strongly loading on component 3, and self-efficacy beliefs of test/assignments accommodation items strongly loading on component 4.

4.4 Role of instructors in providing instructional accommodations

Major roles of university instructors concerning provisions of instructional accommodations:

– Providing accessible classroom
– Allowing to tape record their lecture
– Providing copy of their lecture note
– Sign language interpreter
– Assigning exam reader for students with visual impairment
– Extended time during exam

4.5 Discussion  Instructors’ self-efficacy belief about the Provisions of Instructional Accommodations

The result showed that on average instructors’ had strong self-efficacy beliefs in providing instructional accommodations. This strong self-efficacy belief of participants can be explained by referring back to the specific characteristics of participants in this study. Almost half of the participants in this study were instructors who took special needs education course in their pre-service teacher training program. So, one factor explaining the strong self-efficacy beliefs of instructors’ instructional skills might be taking of special needs education course.

The explanation that the relationship between instructors’ self-efficacy belief about the provisions of instructional accommodations with special needs education course is supporting Bandura’s study that pre-service and in-service training in special needs education was statistically significantly related with positive/strong self-efficacy beliefs (Bandura, 1997) to teach students with disabilities in the inclusion settings. Other study (Ashton et al. as cited in Tschannen et al., 1998) also reported that teachers with high self-efficacy were those who had adequate training to develop strategies for overcoming obstacles to student learning.

In fact, the positive relationship between special needs education training and instructors’ self-efficacy belief about the provision of instructional accommodations is not surprising because the result of this study as well as several earlier findings (Bandura, 1997; Martinez, 2003; Avramidis & Kalyva, 2007; Leyser & Greenberger, 2008) confirm to the value of training in improving instructors’ confidence and knowledge to deal with the provision of instructional accommodations for students with disabilities. Probably further advancing the notion that special needs education training is one of the important factors in raising the instructors’ self-efficacy belief in the area of provision of instructional accommodations.

In line with the value of special needs education training Rao and Gartin (2003) suggested that knowledge regarding characteristics and needs of students with different disabilities is very essential for effective provision of educational accommodations. Besides, Wren and Keys (2008) implied that
having insufficient knowledge about making accommodations was negatively associated with the provisions of instructional accommodations for students with learning disabilities. Furthermore, Martinez (2003) suggested that providing the kind of preparation and training that teachers need to be effective catalysts of the inclusive movement begins at the pre-service level, before teachers enter the field.

Taking studies of Martinez (2003) and Wren and Keys’s (2008) as well as the result of the current study together sheds light on the importance of pre and in-service training in the area of special needs education as an important contributor to the implementation of the provisions of instructional accommodations practices for students with disabilities in the universities. In other words, in order to assist instructors to effectively deal with the provisions of instructional accommodations, more emphasis should be given to the provisions of special needs education course/s or training/s during pre-service or in-service teacher training programs. It seems, then, that the basic knowledge about the characteristics of various disabilities and the ability to provide instructional accommodations to meet the educational needs of students with disabilities in the universities are essential responsibilities of the instructors.

4.6 Relation between Instructors’ Background Variables and Self-efficacy Belief about the Provisions of Instructional Accommodations

In this study, location of universities had statistically significant relationship with instructors’ Self-efficacy belief about the provisions of instructional accommodations. Instructors from Addis Ababa University had a statistically significantly higher Self-efficacy belief than the instructors from Jimma, Adama and Ambo universities. This finding implies that the older the universities the higher the self-efficacy belief about the provisions of instructional accommodations the instructors have.

The difference between universities concerning instructors’ Self-efficacy belief about the provisions of instructional accommodations could be explained by number of students with disabilities in the universities. Since there are relatively more number of students with disabilities in Addis Ababa university than in Jimma, Adama and Ambo universities, the instructors of Addis Ababa university in more likely to have more direct experience of
students with disabilities, mainly teaching them. Or the instructors of Addis Ababa University may have more contacts with persons having better knowledge about people with disabilities, for example, special educators. These contacts may lead to develop more information and knowledge about students with disabilities which in turn lead to develop high self-efficacy belief about the provisions of instructional accommodations. In support of the notion that the relationship between direct experience of students with disabilities and attitudes and willingness, previous studies also suggested that personal contact with persons with disabilities was related to attitudes and willingness to provide instructional adaptations/accommodations (Minke, Baer, Deemer, & Griffin, 1996; Kim, Park, & Snell, 2005; Leyser, et al., 2011; Leyser & Greenberger, 2008). Mark (2008) also found that faculty members who had contacts with individuals with disabilities were more likely to provide instructional accommodation for students with learning disabilities than faculty members who did not have the contacts.

Moreover, the experiences and contacts with students with disabilities and special needs educators may create an opportunity for other instructors to share experiences regarding instructional accommodations, either informally such as discussion in the cafeteria or formally through workshop (verbal persuasion). The relationship between contacts with special educators and self-efficacy beliefs can best be clarified by Bandura’s (1997) idea that verbal persuasion can improve self-efficacy in conjunction with other sources of self-efficacy but might not alone be sufficient to increase perceived self-efficacy. Listening to others’ verbal persuasion can be effective only if it is accurate and well-intended, that is, the potency of persuasion depends on the credibility, thrust-worthiness and expertise of the persuader (Bandura, 1986, 1997). In addition, (Bandura, 1994) stated that seeing people similar to oneself succeed in a particular activity by sustained effort raises observers’ beliefs that they too possess the capabilities of mastery, which are comparable activities to succeed in that particular activity. By the same token, observing others’ failure despite high effort lowers observers’ judgments of their own efficacy and undermines their efforts.

The study found that in-service and/ or pre-service training on SNE and awareness raising training on IE had a statistically significant relationship
with instructors’ self-efficacy beliefs to provide instructional accommodations. In other words, instructors who took the special needs and related course/training had significantly higher self-efficacy belief about the provision of instructional accommodations than those who didn’t take the course/training. The possible explanation for this higher self-efficacy belief about the provision of instructional accommodations by those instructors who took the course/training is that the course/training presumably helped the instructors to develop better understanding of special needs education and instructional accommodations. Besides, taking course/s or trainings related to special needs education could also help the instructors to acquire fundamental understanding of the nature, educational needs and disabling conditions of students with specific disabilities. Hence, this understanding might be effective enough for instructors to deal with the provision of instructional accommodations for students with disabilities and further for developing positive willingness, self-efficacy beliefs, knowledge and attitudes towards it.

There are evidences to support the notion that fundamental understanding of the nature and needs of specific disabilities help instructors to deal with instructional accommodations. For instance, Cook, Rumrill, and Tankersley (2009) found that having a basic understanding of specific disabilities and the characteristics of those disabling conditions might alleviate the insecurity that some faculty members feel when teaching and interacting with students with disabilities. Similarly, faculty members with more training and information about disabilities hold more positive views, willingness (Leyser & Greenberger, 2008) and positive attitudes (Avramidis, Bayliss & Burden, 2000) to make instructional accommodations than those with less training do. A related research by Leyser and Tappendorf (2001) found out that teachers with more training in special education are more optimistic about inclusive practices than teachers with less special education preparation. In addition, Bandura (1997) stated that positive verbal persuasion (training related to special needs or inclusive training offered by expertise) works to encourage and give power to a person’s self-efficacy beliefs.

The finding that special needs education and related trainings had a statistically significant relationship with instructors’ self-efficacy belief, as well as the findings of previous studies (Bandura, 1997; Avramidis, Bayliss
& Burden, 2000; Leyser & Tappendorf, 2001; Leyser & Greenberger, 2008) suggest that the more training instructors receive concerning students with disabilities and instructional accommodations, the more comfortable instructors will feel about the provision of instructional accommodations for these students in the universities. Of course, taking training in the area of special needs education or inclusive education is an essential factor for instructors to develop better self-efficacy belief about the provision of instructional accommodations for students with disabilities in university. If instructors develop better self-efficacy belief about the provision of instructional accommodations, they could be able to provide satisfactory and reasonable environmental adjustments for students with disabilities in the universities. As a result of such environmental adjustments, barriers that may have negative influence on education could be minimized and these students would have equal opportunity to achieve in their university education (Kochung, 2011; Oliver, 1996).

4.7 Underlying Factor Structures of the Instructors’ Self-efficacy Belief about the Provisions of Instructional Accommodations

Exploratory Factor Analysis (EFA) revealed the existence of four components for self-efficacy items. The interpretation of the four components of self-efficacy beliefs items implies that conceptually components that explained aspects of the instructors’ self-efficacy beliefs included: teaching methodology accommodations, communication accommodations, material/environmental accommodations and test/assignments accommodations components. Nearly all of the four aspects of the instructors’ self-efficacy beliefs contained the existing four components. In other words, items of the measure, self-efficacy beliefs to provide accommodations, used in the current study reflect the major categories of instructional accommodations stated by (Cox, 2008). This implies that the content validity of the measure (self-efficacy beliefs to provide accommodations) was fairly considered during its construction. In addition, as can be seen in figure 2, except one item (item 21), the rest of other items had loadings of more than 0.4 implying that item 21 has to be revised to be used for further research (Field, 2000). Furthermore, there were no items with high (above 0.40) loading on two or more components.
5. Recommendations

- In order to create an equal opportunity in education for all students in the universities, the instructors’ self-efficacy belief to provide instructional accommodations for students with disabilities is very critical.
- Therefore, to enhance the instructors’ self-efficacy belief to provide instructional accommodations further, a great emphasis should be given to both pre-service and in-service special needs education related trainings.
- These special needs education related trainings should be intended to:
  i. Enhance the knowledge base of instructors about students with disabilities and methods to meet their unique learning needs through the provision of instructional accommodations.
  ii. Make instructors aware of the potential of students with disabilities.
  iii. Improve the personal beliefs or opinions of instructors regarding students with disabilities and their education.
  iv. Increase the instructors’ knowledge of legal responsibilities related with accommodations.
  v. Make the instructors aware of issues related to disability etiquette and policies regarding accommodations.

References


