Cultural Competence Scale (CCS): The Study of Adaptation to Turkish, Validity and Reliability

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Abstract

The aim of this study is to adapt The Cultural Competence Scale (CCS) to Turkish. Sample of the study consists of 420 university students attending Gaziantep University Education Faculty. First, the inventory was translated into Turkish and English again by five experts. By this way linguistic equivalence is verified. The factor structure of the inventory was analyzed through Confirmatory Factor Analysis (CFA). The findings of the analysis showed that factor structures of the inventory were similar with the original inventories. The internal consistency value of scale is 0.86. The test-retest reliability of the scale was found 0.91. As a result, Turkish Cultural Competency Scale is said to be reliable and valid instrument to measure cultural competencies of university students in Turkey.

Keywords: Cultural literacy, cultural competency, validity, reliability, university students

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Introduction

Culture has been introduced by Tylor as a complex entirety as that by being a part of the community, human beings gain talents and customs such as knowledge, art, morality and tradition (quoted by Şişman 2007); The shared belief, value, norm and demeanor is highly made of symbols. It is taught and transferred with those symbols (language, legends, myth, ideology) by using it as a control mechanism (Şişman 2007); It is something that changes with time, experiences and conditions, and by that entirety, it is what makes the society it is (Center for Cross Cultural Education, 2007); As it is described as one of the four needed structure (the others being social, environment and economic) for a nation and society to sustain itself, literacy which is the ability to understand, interpret, gather up, communicate and to account different types of written sources (Hawkes, 2001); Quappen and Cantator (2005), our culture allows us to maintain our presence; emphasize that cultures and community can not be considered separately, owing to our culture, we can live and breathe. In the process of culture, literacy of individuals, who lives in the same culture, is an important phenomenon with many factors. In this context, literacy; which is the ability to understand, interpret, gather up, communicate and to account different types of written sources (UNESCO, 2012); Individuals who has reached and having a certain cultural level (Bruce, 2003); Is described as a cultural and social habit in the world (Sreet, 1995).

Pahl and Rowsell (2012) regarding this matter, has said that literacy is connected with our identity and tradition, and that our use of literacy takes its form at work, school, home and such. And that is why they urged that culture is one of the dimension that must be taken within literacy. With using this frame as a source, it can be shown that cultural literacy, is the ability of an individual’s adaptation to a culture (Hirsch, 2001) and The ability to understand and value the differences and resemblances, between his culture and the other person’s faith, values and traditions (Berjawi, 2010); It consist of the skill to understand a culture and acquiring ideas from it to increase sustainability (Polistina 2009). Being a culturally literate person, differently said is to adapt to a culture (Hirsch, 1987) by having the knowledge of the other culture’s faith, values, norms, symbols, technology and such (Şişman, 2007). Ziesing (2005) has expressed this by saying “To understang one’s reaction against any situation, one has to know the one’s cultural features.” Polistina (2009), says that society rests on four cultural literacy for sustainable development. Those are: Cross cultural awareness, local cultural awareness, critical reflection and thinking ability, personal skills for coping with being change agent. Furthermore Polistiona (2009), argues that besides all this cultural literacy skills, culturally literate individuals argues that cultural literacy skills are also required to have the cultural competency skills in order to be accepted. Cultural competence; In multi-cultural environment, a team, a unit and provide consensus among colleagues and compliant behavior and attitude of rules that allows effective work (Cross, Bazron, Dennis ve Isaacs, 1989); The conduct, manner that reconcile institution, human relations, and enhances business efficiency in multi-cultural environment (U.S. Department of Health and Human Services, Health Resources and Services Administration, 2001); the attitudes in cross-cultural situation, the application skills and system knowledge (Chrisman, 2007); Individuals/societies who has cultural competence can establish healthy relationships with individuals/societies, maintain their relationships, create partnerships, trade each others by understand their response, briefly they can continue their existence. To reach those sufficiency mentioned above, Mason vd. (1993) and Hanley (1999) assets that individuals passes from six stages.
which is made to evaluate the efforts made in the process of cultural sufficiency. Those cultural sufficiency stages are (Mason vd. 1993 ve Hanleyi 1999):

- **Cultural subversion:** An individual/society using force to eradicate another individual/society.

- **Cultural inadequacy:** The cultural differences are not punished or supported. Cultural differences being ignored.

- **Cultural blindness:** Acting like cultural differences are insignificant or unimportant. Not paying any attention, sparing time or using a sources to understand cultural differences.

- **Cultural pre-qualification:** Knowing the cultural norms and finiteness originating from their culture when being in interaction with a different cultural group

- **Cultural proficiency:** Being in reconciliatory conduct and attitude, whilst interacting with an individual/organization from a different culture.

- **Cultural professionalism:** Respecting cultural differences; knowing how to gather information from other cultures; improving relations to establish cultural proficiency.

The qualities of an individual who has reached cultural proficiency has been gathered under “Cultural Proficiency” and put into six title, based on the work of Huskey, Deen and Parker (2010), Cross et al. (1989); American Speech-Language Hearing Association (2004); Burchum (2002); Hanley (1999).

These are 1) cultural awareness skills, 2) cultural understanding skills, 3) cultural knowledge skills, 4) cultural interaction skills, 5) cultural sensitivity skill (Huskey et al, 2010).

**Cultural awareness skills:** Discovering personal and cultural values, trends, prejudices and appearances; describing the ways that shape by the culture, values, faith and behavior. Defining the resemblance and differences in culture; knowing your culture including organization culture,

**Cultural understanding skills:** Understanding developmental nature of cultural proficiency; describing the emerging issues and concerns when the values, faith and behavior are different from the ruling culture. Recognizing the ways that affects the participation of an organizational program and its services.

**Cultural knowledge skills:** Being familiar to the cultures of different masses residing within its geography; using theoretical and conceptual models to understand how the culture of other people differentiate from oneself. Defining the cultural information sources and using these sources.

**Cultural interaction skills:** Knowing the factors that positively affects cross-cultural communication; using the cross-cultural communication concepts and theories; manage cross-cultural conflict effectively; interacting productively; requesting help from cultural partners.

**Cultural sensitivity skill:** Defining the determined effects on sociological and historical on some cultural formations; defining the effects of privileges, inequality and oppression in daily conditions. Huskey and the others(2010), submits that for the consequences of all over these skills, people who have cultural competencies should display three basic behaviours as competent adults. These are:

**Cultural proficiency skills:** attending different settings, initiatives and programs which are different in terms of culture, integrating cultural competencies on preparing, applying and
evaluating of programs and services, using strategies while communicating to different cultures on the vocational settings.

In conducted literature review, it can be seen comprehensive studies on this topic in foreign literature. These are: Ponterotto (1998); Chen ve Starosta, (2000); Rew, Becker, Cookston, Khosropour ve Martinez (2003); Graf (2004); Stanhope (2005); Roberts-Walter (2007); Nieto (2008); Perng ve Watson (2012). In Turkey, there are a limited number of studies on this topic. Karaeminoğulları, Doğan and Bozkurt (2009) studied on the dimensions of the cross-cultural adaptation inventory (emotional resilience, flexibility / clarity, perceptual awareness, personal autonomy) which is developed by Kelley and Meyers.

Recently, the reasons such as unlimited communication environment, intense flow of information, through several programs causes inter-university student and academic member exchange can create not only rich in cultural diversity environments but also pose a problem of this cultural diversity with the impact of globalization. From this point of view, reducing as possible of the issues considered as the richness of cultural diversity, especially, it is considered to be particularly meaningful addressing to the cultural work in universities which is hosting individuals from different cultures. Because an individual in the college years can live uncertainties and anxiety in the process of preparing development of the next period, able to act independently, to realize their own inner strength, self-development, have a profession, the living standards of the enrichment (Kızıldağ, Demirtaş Zorbaz, Gençtanır and Arıcı, 2012) and cultural differences also added on that his anxiety may have increased even more. Taking into account all these, the purpose of this study has been identified to adapt Cultural Competence Scale (CCS) on Turkish. The adaptation of the scale on Turkish will contribute a variety of cultural activities and it is expected to gain different perspectives the situation affecting the academic achievement of students.

Method

In this chapter, process of population and sample, the adaptation of the scale, reliability and validity are described.

Population and Sample

1610 students of Gaziantep University Faculty of Education are attended to create the research's population of the study under the CCS's adaptation, the validity and reliability. Because the number of individuals in the research audience known, \[ t_{2pq} n = N / d^2 \] (N-1) + \[ t_{2pq} \] formulation applied while calculating the sample size of research. (Yazıcıoğlu ve Erdoğan, 2004). The result of calculation show that sample size should be at least 310 (\[ n=1610(1.96)^20.5x0.5 / 0.05^2x(1610-1)+(1.96)^20.5x0.5= 310 \]). The universe of samples included in the study is 420 students selected by stratified simple random sampling method, it has reached the number over the necessity number of samples. 169 of the participants were male (40.1%) and 251 were females (59.9%). The college students' age range who attended the survey is between 18-30. In addition, original scale was also applied to university students between the ages 18-30.

Measuring Tool

Cultural Competence Scale (CCS) is used to collect quantitative data on research which is developed by Perng and Watson (2012). Before using the scale, Shoa-Jen Perng has been contacted from his address jen@teen.edu.tw, in order to get the necessary permissions to use...
the scale. When improving the scale, Perng and Watson (2012) has made use of the studies of Ahmann (2002); Burchum (2002); Campinha-Bacote (2002); Jeffreys (2002); Suh (2004). Perng and Watson (2012) and made a pool of 41 article and removed 21 of those articles from the scale after conducting some analysis. In the end, they have obtained a 20 articled scale made of 3 sub-dimensions following 6 cultural data, 2 cultural susceptibility and 12 cultural skill. The last state of the original scale was a fivefold Likert type scale with a Cronbach alpha value between 0.78 and 0.96.

When making studies on the adaptation of the scale to Turkish, the suggestions of Hambleton and Patsula (1999) has been taken into account and as a first, the forms that has been prepared in English has been translated into Turkish by a psychologist, 2 philologist and 2 domain expert. After that, these 5 translation has been brought together to form a common translation by taking the socio-economic factors into consideration. This common translation then has been traslated into the original language and examined if it was consistent with original articles. In the end of the examination it has been seen that the scale’s original articles has a language equivalence with the translated article from Turkish. Necessary corrections have been made by making qualitative interview with 10 university students in order to determine the intelligibility and applicability of the translation.

The scale was applied to 420 students of Gaziantep University Faculty of Education to assess the factor structure of the scale, construct validity, reliability of the scale and the affect of the distinguishing points of substances. The Turkish version of the scale was created according to the data obtained from the application.

Analysis of Datas

In this study, it was looked upon the construct validity of the validation study of Cultural Competence Scale. Confirmatory Factor Analysis(CFA) was applied for construct validity of Cultural Competence Scale. DFA was conducted to determine whether the factor structure of the scale is verified on the Turkish students or not (Büyüköztürk, Akgün, Kahveci and Demirel, 2004). Under the CCS reliability study, significance of difference between average article of the lower 27% and upper 27% group were examined with using article-total correlation and the t-test in order to test the consistency of the scale items with each other by using the test-retest method in order to test the Cronbach alpha coefficient and stability (Kılıçer and Odabasi, 2010). SPSS 20 and LISREL 8,7 (Jöreskog and Sorbo, 1996) programs were used for the validity and reliability analysis of scale.

Findings

Findings Related to Reliability

In this study, reliability of CCS has been examined by calculating Cronbach alpha coefficient and reliability of test-retest coefficient. Cronbach Alpha's Internal Consistency Coefficient of CCS was found 0.86 for the whole scale. When examining at the dimensions of scale, data dimension 0.72, sensitivity dimension 0.69 and skill dimension 0.84 was found. In order to determine its reliability, the Turkish scale has been applied with a 2 week interval to 100 undergraduate students of education faculty of Gaziantep University by using test-retest method. According to the application results, the Turkish scale has a reliability coefficient of 0.91 in test-retest
Relation Between Factors of the Cultural Competency Scale

To determine whether or not the factors of the CCS's are independent from each other, the multiplying of Pearson momentum correlation has been examined. The results are given in Table 1.

Table 1: Cultural Competency Scale's Pearson correlation coefficient between factors.

<table>
<thead>
<tr>
<th>Competency</th>
<th>Susceptibility</th>
<th>Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competency</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Susceptibility</td>
<td>0.554**</td>
<td></td>
</tr>
<tr>
<td>Knowledge</td>
<td>0.532**</td>
<td>0.516**</td>
</tr>
</tbody>
</table>

**p<0.01

As seen in Table 1, there is a positive and significant (p<0.01) relationship between the scales sub-dimensions. This result indicates that the scale is made of independent factors.

Confirmatory Factor Analysis (CFA)

In this study, the confirmatory factor analysis (CFA) has been used in order to see if the unique form’s factor structure can validate on Turkish samples. Many fit indexes are used to check if the model that is being tested in CFA is sufficient. For the CFA made in this study, Chi-Square Goodness, Goodness of Fit Index-GFI, Adjusted Goodness of Fit Index-AGFI, Comparative Fit Index-CFI, Normed Fit Index-NFI, Relative Fit Index-IFI, Incremental Fit Index-IFI, Root Mean Square Error of Approximation-RMSEA fit indices has been examined. The coherent acceptability value for the indexes GFI, CFI, NFI, RFI, IFI and AGFI is 0.90 and the perfect coherent value is accepted as 0.95 (Marsh, Hau, Artelt, Baumert and Peschar, 2006). As for RMSEA the coherent acceptability value is 0.08 and the perfect coherent value is accepted as 0.05 (Byrne and Campbell, 1999; Browne and Cudeck, 1993). The obtained model’s fit indexes from the CFA has been examined and seen that it’s Chi-Square value (X² = 802, sd=167, p=0.00) has a significance. The indexes coherent values have been found as the following; RMSEA= 0.098, NFI= 0.91, CFI= 0.93, GFI= 0.87, IFI= 0.93, RFI= 0.90 and SRMR= 0.063, RMR= 0.055. These values shows that the model is fit enough. CCS is the Turkish version of the scale is 20 articles and is composed of three factors determined by alignment markers of confirmatory factor analysis and the model was found suitable in terms of theoretical and statistical analysis. The factor load for the model are shown in Figure 1.
**Figure 1.** Diagram of Path Related to Cultural Competence Scale and Factor Loads

**Article Dissociation Power**

Validity work of CCS's factor analysis study of the scope, principal component analysis method and scale of the distinctive lower and upper 27% group comparisons were made to determine its validity. Discrimination power of the items which are made is calculated. Oluşturan maddelerin ayırıcılık güvleri hesaplanmıştır. While calculating the Dissociation Power of Article, first of all, the total points of each subject received are calculated and listed in descending right. The Group's 27% (113) have the supergroup, 27% (113) have formed subgroups. Whether is there the significant differences between supergroups and subgroups were tested by t-test for independent samples.

The results comparing the top and bottom groups the 27%, the slice of the participants top 27% and bottom participants 27%, their average rating that they have received from the CCS,
A moderate positive and significant relationship was found between the scale factors. If the test-retest reliability coefficient is 0.91, the envisaged reliability level is 70 (Tezbaşaran, 1996) taking those into account, it can be said that the level of reliability is sufficient. As a result of the studies, we can say that significant results has been reached in terms of CCS's validity and reliability.

Due to the scale to be short and easy to apply, it will be a great help to Turkish society towards cultural competence in researches and are expected to fill an important requirement. Limitations of this study; the sample to be at a particular age range, the sample being limited to individuals with undergraduate students, it is applied only in the university's structure. In subsequent studies, in a broader age group of the scale it would be useful to test the factor structure applied in different areas and in different occupations is thought to strengthen the scale. With the results of the different age groups and social groups of this study, different

**Discussion and Conclusions**

In this study, Cultural Competence Scale developed by Perng and Watson (2012) was adapted to Turkish to provide support to various cultural competency work. In the study university students were selected as samples. The research's sample, the envisaged sample size to scale development work should be around ten and five times (Tavşancıl, 2002) is considered adequate when thought as such.

Confirmatory factor analysis (CFA) is made to demonstrate CCS's construct validity. The three factored structure of the scale and CFA has been examined if it can be confirmed on Turkish university students or not; it is seen that the three factored model's confirmed scale's original factor structure matches the turkish version factor structure. A moderate positive and significant relationship was found between the scale factors.

If the test-retest reliability coefficient is 0.91, the envisaged reliability level is 70 (Tezbaşaran, 1996) taking those into account, it can be said that the level of reliability is sufficient. As a result of the studies, we can say that significant results has been reached in terms of CCS's validity and reliability.
professional groups (teachers, academics, education administrators, medical staff, etc.) are considered to be useful to use in students studying at different levels.

**Conflict of Interest**
The authors have not declared any conflicts of interest.

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Cultural Competency Scale Items

1. I think I have the ability to communicate with friends from different cultures.
2. I can gather information about my friends' culture with different methods.
3. I am familiar with the different behaviors of my friends due to their culture.
4. I think that the behavior of my friends in the classroom originate from their cultures and beliefs.
5. I can make a comparison between the beliefs of my friends from different cultures.
6. I can easily determine what my friends from different culture needs in terms of their own social needs.
7. I can talk the differences between their faith/manner and my faith/manner with my friends.
8. I endeavor to understand the beliefs of my friends from different cultures.
9. I can use different communication skills (orally, in writing, body language, etc.) to interact with my friends from different cultures.
10. I can learn about each of my friend's cultural beliefs/attitudes.
11. When communicating with my friends from different cultures I can explain that their behavior is influenced from their culture.
12. I can explain that my friends' culture has an impact on every aspect, from their faith/manner to their food types.
13. I take in consideration my friends' cultural differences when setting a goal in any sorts of classroom work.
14. I can help my friends from different cultures with everything as far as I can.
15. When performing joint activities with my friends from different cultures I can adapt to their cultural norms (rules).
16. I can give my classmates information about various cultural similarities and differences.
17. I can explain that different behaviors exhibited by different individuals in daily life on the same topic are due to different cultural structure.
18. I can do guidance to my classmates on how they can communicate with my friends from different cultures.
19. I can designate a joint work and can guide my classmates and my friends from different culture in the editing stage.
20. I can show and guide on how my classmates can adapt to my friends from different culture's norm when doing a common social activity.