

## A Turkish Translation, Validity and Reliability Study of the Dimensions of the Learning Organization Questionnaire

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**Abstract:** This paper discusses the methodology and findings on the validity and reliability of the translation of Dimensions of the Learning Organization Questionnaire (DLOQ) into Turkish. The translation method was a five-step model including forward translation, assessment of forward translation, backward translation, assessment of backward translation and local meeting with professionals. To test the construct validity of translated instrument, a factor analysis was performed and to examine the reliability of the measure Cronbach's alpha coefficients were calculated. The results showed that the Turkish version of DLOQ was a valid instrument to measure the learning processes in organizations in Turkey. Thus, with the help of this study a cross-cultural validation of DLOQ has been done. The findings might inspire some new researches in different cultures other than western ones.

**Key words:** Learning organization % translation % cross-culture % survey research % Turkey

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### INTRODUCTION

Over the past 15 years, enormous economic, social and technological changes of increasing intensity have changed the environment of the business world. The large 'dinosaur' organizations of the past cannot breathe and begin to vanish in this new atmosphere of rapid changes and intense competitions. The motto 'fit to survive' has changed to 'fit to learn to survive' [1]. In the next millennium the dinosaur organizations that can transform themselves into more intelligent, profitable and capable of learning will survive. This new kind of organization structure will contain greater knowledge, flexibility, speed, power and learning ability and will be named as 'learning organization' [1].

A learning organization draws a lesson from every experiment and renewing itself continuously, it can adapt to changing environmental conditions. This new period is a transformation era of rapid technological advances, social and political changes and harsh international competition. When the world is thought to be a big system, any kind of change occurring in a sub-system will influence all of the other sub-systems in a very short time. Because of that reality we experience economic, political, socio-cultural or managerial reconstructions everyday [2]. In this atmosphere it seems impossible for organizations to preserve their outdated structures and inevitable to transform into a more flexible and adaptive form.

As Albert Einstein says: "No problem can be solved from the same consciousness that creates it; we must learn to see the world anew". The changes in the areas of environment, workplace, customer and worker have differentiated the world so much that the old dinosaur-like organizations cannot cope with the new problems anymore [1]. As Einstein stated, those new problems could not be solved with the same structures, mental processes or knowledge that were used successfully in the past.

'Change' is a unique concept that is inevitable in the past and today. Consequently, in order to adapt themselves to changing environmental conditions and to increase their competitive abilities, today's world organizations are in a constant process of change and development. In this respect, to manage the 'change' is the first priority for organizations. Therefore, organizational transformation needs must be analyzed carefully, the most appropriate strategies must be developed and so that the organization can adapt to environmental changes.

Recently, managers have increasingly become aware that the current knowledge, strategies, leadership and technology will not succeed in tomorrow's market conditions [1]. It is clear that companies have to increase their collective learning capacity if they want to live in an environment that includes alliances, rapid technological and social changes and accelerating competition.

Therefore, learning organization understanding must become widespread and efforts of transformation to a learning organization must be augmented.

**Conceptual framework:** The knowledge is getting more global every day and that dynamic structure of knowledge is forcing people to be open to change and development. The exact and simple way of acquiring knowledge is 'learning'. Learning is very important both for individuals and organizations.

The importance of learning depends on a simple reality. All the knowledge, abilities, attitudes and behaviors are the results of our learning. Human learns how to behave, work and get knowledge by direct or indirect ways. Generally, learning is identified with school but in fact it begins with born and continues during whole life. A human gets only a small proportion of his or her knowledge at school; the biggest portion comes from daily life experiences. Learning is a basic feature of living organisms. Every living being has to adapt to environment in order to survive and has to learn continuously to realize such an adaptation. Traditionally, learning might be defined as "a process in which individuals acquire new knowledge and intuitions that result in a change of the behaviors and actions" [1].

Learning could take place in individuals, teams, the organization and even the communities with which the organization interacts [3]. To most researchers, organizational learning takes place with the help of individual learning [4-7]. These researchers argue that the individual is the only actual entity of learning and in order for a team to learn, individual learning must come true and similarly, in order for an organization consisting of teams to learn, the team learning must come true.

In today's world work and management change rapidly, so only a person (e.g. CEO) is not enough to think about the organization. To obtain and sustain competitive advantage in this new world, companies have to evolve into a higher form of learning capability and transform to a learning organization. Only if they could manage that transformation, they would be able to live in the next decades [1].

Two prominent researchers in the field, Argyris and Schon [4] conceptualized organizational learning as "the process of identifying the mistakes". Argyris and Schon argue that the true learning takes place at the end of that process. They suggest that learning occurs when an organization achieves what it has intended to do or when a mismatch between intentions and outcomes is

identified and corrected. So, only the mismatch is not enough for learning, also, this mismatch must have been realized and followed by a correcting action.

From a much broader perspective, organizational learning deals with the process of change and transformation [8]. Such processes often focus not only on looking for short-term solutions but also on the overall adaptation of the organization. Ideally, learning and development in an organization must take a systematic approach that facilitates all of the organization members to take part in transformation process [6, 8]. Change of an organization means change of people's values and beliefs. If those changes occur in a collective order, materialization of organizational learning and transformation to a learning organization might be seen [8-11].

A learning organization is a dynamic organization that draws a conclusion from its rights and mistakes, adapts those to the changing environmental conditions in a systematic way which improves the people and finally transforms and improves itself continually [6]. In other words, a learning organization is a living organism and is a part of daily life. Through the years, many researchers have argued the difficulty of understanding the concept of learning organization and suggested that there should be a clear and distinct definition [12-16] and made different definitions fitting to their professions.

For example Braham [2] defines the learning organization as "an organization which gives learning priority"; Garvin [13] suggests "a learning organization is an organization skilled at creating, acquiring and transferring knowledge and at modifying its behavior to reflect new knowledge and insights"; Senge [6] describes them as places "where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free and where people are continually learning how to learn together".

Organizations that have capability of faster learning will adapt to new conditions quickly and have significant strategic advantages in globalized and competitive world. This new kind of organizations will have more knowledge, be more flexible, fast and strong and capable of adapting to changing environmental conditions in order to please both workers and shareholders.

When the literature of learning organization concept is searched, it could be seen that some of the researchers such as Argris and Schon [4], Senge [6] and Huber [17] have worked the subject only mentally and have not

offered a road map or an experimental research result. But in order to take the learning organization concept from mind to practice, someone could measure it. Therefore, there must be some measures to expose the learning capabilities of the organizations.

Dimensions of the Learning Organization Questionnaire (DLOQ), a survey developed by Watkins and Marsick [18], is planned to assess learning activities within the organization. Watkins and Marsick describe seven dimensions or action imperatives necessary for organizations to become a learning organization: create continuous learning opportunities (continuous learning), promote inquiry and dialogue (dialogue and inquiry), encourage collaboration and team learning (team learning), establish systems to capture and share learning (embedded systems), empower people toward a collective vision (empowerment), connect the organization to its environment (systems connections), leaders model and support learning (provide leadership). Watkins and Marsick added two more dimensions to see the key results in the organization: state of financial health and resources for growth (financial performance) and enhancement of products and services because of learning and knowledge capacity (knowledge performance). In this study only the first seven dimensions to assess the learning activities have been translated to Turkish and used.

The DLOQ was composed of forty-nine items. 'Continuous learning' dimension included seven items and each of the other dimensions included six items. A six-point Likert scale from 'almost never' to 'almost always' was used to rate each item. Several studies showed strong reliability and validity levels for DLOQ [18-20]. In this study DLOQ would be tested in a different cultural sample.

**Purpose of the study:** In Turkey many of the organizations think about 'change' and 'development' but they cannot decide the way of change or development. The DLOQ is assumed to be a useful instrument to assess the learning activities in United States and in many western countries; therefore, the questionnaire might be useful in human resources management or organizational development in Turkey to decide the way of change within the organizations. Furthermore, it is known that cultural differences might cause some differences in social researches. Therefore, the purpose of this study is to translate the seven dimensions of DLOQ into Turkish, to adapt it to another cultural environment and to test the

validity and the reliability of the Turkish version of the questionnaire. The Turkish version may be used to assess the learning activities of organizations in Turkey or may inspire some new researches in different cultures similar to Turkish one. Thus, cross-cultural validation of DLOQ could be done.

## METHOD

A method based on a model described by Bristlin *et al.* [21] was used, which consisted of five steps: 1) forward translation, 2) assessment of forward translation, 3) backward translation, 4) assessment of backward translation and 5) local meeting with professionals.

**Sample:** In this study, a sample that could represent the Turkish private sector companies has been used. The participants were lower, middle and upper level managers who have been working for in different middle or large sized companies in Turkey. The companies that form the sample were selected from the list of 'Turkey's Biggest 500 Firms – 2004' which is published every year by İstanbul Industry Association (ISO). The most important characteristic of these firms is their strong institutional structure. Besides the institutional structure, intense competition in the industries forces these firms to plan, design and maintain the change within the organizations.

First, fifteen firms were selected from the list. Then, the questionnaires were posted to the human resources departments of the firms with an information note. 350 questionnaires were sent and 230 (65,7%) returned. When the returned questionnaires examined, 16 of them were seen inappropriate. As a result a total of 214 valid responses were used in the research.

**Forward translation:** The initial translation of the DLOQ from English to Turkish was performed independently by two bilingual translators whose mother tongue was Turkish. The first translator was one of the researchers of this study and the second translator was an English literature lecturer in one of the Turkish universities. For having no basic information about the subject, before beginning the translation procedure, explicit information about the use and intent of the DLOQ was given to the second translator. Instructions included a request to avoid focusing on the use of Turkish terminology when conducting the initial translation, to use common Turkish

equivalents for all words and phrases and to translate the questionnaire as closely as possible.

**Assessment of forward translation:** Assessment of forward translations was performed by a group of six-people who attended several social research projects done before in the same university. These people were asked to review each item of both translations independently and choose the best one in terms of clarity (i.e. the item must express a single idea, should be easy to read and understand); common language (i.e. the item is expressed with language used by the general population) and cultural adequacy (i.e. the item is appropriate and relevant to Turkish culture). After a discussion among the group members, participants agreed one of the translated items one by one or generated a new one.

**Backward translation:** The agreed Turkish translation was then retranslated to English by another English literature lecturer. The same translator identified any corrections in grammar, word usage or diacritical markings necessary in the Turkish translation given. The lecturer attended several projects as the same as this one and had a Master's degree in English linguistics.

**Assessment of backward translation:** The backward translation was reviewed by a group which consisted of the researchers, another English lecturer, a Turkish lecturer and a researcher of sociology. This process focused on the conceptual equivalence with the original version of DLOQ. Ninety percent of items were conceptually equivalent; two words were corrected and a final version of Turkish DLOQ was approved

**Local meeting with professionals:** The final version of Turkish DLOQ was reviewed by a panel which consisted of the researchers, two managers from a private sector company and a researcher of sociology. The purpose of this final step was to ensure that final version of Turkish DLOQ was clear, culturally adequate and included the common language used by workers in firms. At this meeting first, two managers were given the information about DLOQ and the purpose of the study. Then, each participant was given a copy of Turkish DLOQ and reviewed the questionnaire item by item. No problems were found and the panel decided to use the questionnaire as provided.

## RESULTS

This study aimed to translate the DLOQ to Turkish while preserving the same ideas across the linguistic and cultural areas. It might be reported that some conceptual discrepancies were identified in the back translated instrument. For example the word 'state' was translated to Turkish as 'ifade etmek' but this word back translated to English as 'express' and the word 'mutual' was translated as 'ortak' and back translated as 'shared'. But the local panel of professionals decided that these differences would not cause any discrepancy in meaning. One of the reasons of those differences might be the cultural differences and the other one might be the structural differences between Turkish and English. Sometimes the word in English may not have an equivalent in Turkish or some words have many different meanings where they were used. Because of the structural problems, two words could not be seen in the back translation.

**Statistical analysis of validity:** To test the construct validity of Turkish DLOQ (TDLOQ), we performed a factor analysis over the survey data. An initial principal components factor analysis with varimax rotation resulted in a 7-factor solution with eigenvalues over 1.0. To test the appropriateness of the survey data for factor analysis, KMO and Barlett tests were conducted. KMO of sampling adequacy test result was .95 and Barlett's test of sphericity was significant ( $p < 0.05$ ). These results exposed that the sample size was adequate and has showed sphericity.

The 7-factor solution of TDLOQ showed the same structure of original DLOQ. When the items under the each factor were examined it was seen that five factors were completely the same as original ones but two factors were confused. These confused factors were 'Empowerment' and 'System connections'. This confusion might be explained with the cultural and social differences between the United States and Turkey.

The factor analysis results are given in Table 1 with scale measures, eigenvalues and common factor variances. Total variance for measure is % 67,62. Despite the cultural differences and factor confusion, it could be suggested that the TDLOQ is a valid measure to assess the learning activities with in Turkish firms.

**Statistical analysis of reliability:** Cronbach's alpha coefficients for each dimension of the scale ranged from 0.84 to 0.92 on the TDLOQ. Overall, the reliability

Table 1: TDLOQ factor loadings, eigenvalues and common variances

Factor	Factor loading
<b>Continuous Learning</b>	EV: 20.528 % of Var.: 47,740
In my organization, people openly discuss mistakes in order to learn from them	0.757
In my organization, people identify skills they need for future work tasks	0.474
In my organization, people help each other learn	0.545
In my organization, people can get money and other resources to support their learning	0.517
In my organization, people are given time to support learning	0.713
In my organization, people view problems in their work as an opportunity to learn	0.757
In my organization, people are rewarded for learning	0.511
<b>Dialogue and Inquiry</b>	EV: 1.378 % of Var.: 3,205
In my organization, people give open and honest feedback to each other	0.739
In my organization, people listen to others' views before speaking	0.436
In my organization, people are encouraged to ask "why" regardless of rank	0.614
In my organization, whenever people state their view, they also ask what others think	0.555
In my organization, people treat each other with respect	0.435
In my organization, people spend time building trust with each other	0.699
<b>Team Learning</b>	EV: 1.087 % of Var.: 2,527
In my organization, teams/groups have the freedom to adapt their goals as needed	0.528
In my organization, teams/groups treat members as equals, regardless of rank, culture, or other differences	0.659
In my organization, teams/groups focus both on the group's task and on how well the group is working	0.652
In my organization, teams/groups revise their thinking as a result of group discussions or information collected	0.490
In my organization, teams/groups are rewarded for their achievements as a team/group	0.306
In my organization, teams/groups are confident that the organization will act on their recommendations	0.503
<b>Embedded Systems</b>	EV: 2.595 % of Var.: 6,034
My organization uses two-way communication on a regular basis, such as suggestion systems, electronic bulletin boards, or town hall/open meetings	0.629
My organization enables people to get needed information at any time quickly and easily	0.441
My organization maintains an up-to-date data base of employee skills	0.643
My organization creates systems to measure gaps between current and expected performance	0.321
My organization makes its lessons learned available to all employees	0.760
My organization measures the results of the time and resources spent on training	0.684
<b>Empowerment</b>	EV: 1.297 % of Var.: 3,016
My organization recognizes people for taking initiative	0.644
My organization gives people choices in their work assignments	0.511
My organization invites people to contribute to the organization's vision	0.677
My organization gives people control over the resources they need to accomplish their work	0.628
My organization supports employees who take calculated risks	0.718
My organization builds alignment of visions across different levels and work groups	0.716
<b>System Connections</b>	EV: 1.012 % of Var.: 2,353
My organization helps employees balance work and family	0.755
My organization encourages people to think from a global perspective	0.725
My organization encourages everyone to bring the customers' views into the decision making process	0.730
My organization considers the impact of decisions on employee morale	0.521
My organization works together with the outside community to meet mutual needs	0.620
My organization encourages people to get answers from across the organization when solving problems	0.676
<b>Provide Leadership</b>	EV: 1.179 % of Var.: 2,741
In my organization, leaders generally support requests for learning opportunities and training	0.636
In my organization, leaders share up to date information with employees about competitors, industry trends and organizational directions	0.541
In my organization, leaders empower others to help carry out the organization's vision	0.628
In my organization, leaders mentor and coach those they lead	0.387
In my organization, leaders continually look for opportunities to learn	0.663
In my organization, leaders ensure that the organization's actions are consistent with its values	0.640

EV:Eigenvalue, Var.:Variance

Table 2: Scale reliability scores

Dimension	United States studies		Spanish translation		Turkish translation
	Watkins and Marsick (1997)	Yang <i>et al.</i> (2004)	Hernandez and Watkins (2003)	TDLOQ	TDLOQ
Continuous Learning	0.82	0.79	0.80		0.84
Dialogue and Inquiry	0.87	0.85	0.81		0.87
Team Learning	0.86	0.84	0.79		0.88
Embedded Systems	0.85	0.79	0.81		0.88
Empowerment	0.85	0.82	0.81		0.90
System Connections	0.85	0.75	0.80		0.90
Support Leadership	0.83	0.86	0.84		0.92

estimate for the entire scale is 0.94 for the forty-three items of the translated instrument. Table 2 shows the alpha coefficients for each scale of this study and previously conducted researches.

In all cases the reliability estimate was comparable with the previous studies. In fact the TDLOQ has the highest estimate scores of all studies. These alpha coefficients suggest that the TDLOQ is a relatively reliable instrument.

### DISCUSSION AND CONCLUSIONS

The results suggest that the TDLOQ is a valid and reliable instrument that could be used in the studies about learning activities of organizations in Turkey. Statistical results suggest that validity and reliability of TDLOQ is even better than those of DLOQ and Spanish version of DLOQ.

The measures that are used in social researches always might be exposed to some problems because of cross-cultural differences. There may be differences between the cultures in which the original measure was formed and the study would be conducted so these differences might endanger the validity of the study. The confusion of two factors in TDLOQ might be a good example for that kind of cross-cultural problem. Hofstede [22] developed a series of scales that measure cultural traits that he argues are related to behavioral tendencies. National norms for these scales have been used in a variety of studies to predict outcomes that can be linked, on theoretical grounds, to cultural traits. Hofstede [22] originally generated four scales: ‘power distance’ (the extent to which subordinates legitimize power differentials), ‘masculinity’ (the extent to which “masculine” values are stressed in a society as opposed to “feminine” values) ‘individualism’ (the extent to which individuals promote personal goals over group goals) and ‘uncertainty avoidance’ (the extent to which individuals are risk averse). Generally, the western countries or cultures (including United States) seem more individualist than those of eastern (including Turkey).

Hofstede’s research results show that Turkish culture is more collectivist, feminine and has more power distance than that of western. Especially, the high level of power distance in Turkish culture would not enable empowerment so the workers evaluate the management system responsible for it. Because of that evaluation, ‘empowerment’ and ‘system connections’ factors might have been perceived similar and the items might have been gathered under the same factor.

However, only with the results of this study one cannot judge the cross-cultural validity of DLOQ. Similar researches must be carried out in Turkey with different samples and in different cultures that are alike of Turkish collectivist and feminine structure. These further studies could expose more significant and reliable results.

Prior purpose of this study was to translate, validate and adapt a measure that could be used to assess the learning processes in local or international companies that have activities in Turkey. The results strongly support that validity and reliability of TDLOQ is appropriate and it could be used in Turkey in studies about learning processes.

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