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## Classification of Countries Participated in TALIS

Betül Alatlı<sup>a</sup>, Emine Burcu Pehlivan<sup>b</sup>

<sup>a</sup> Gaziosmanpaşa University, Faculty of Educational, Tokat, 60000, Turkey

<sup>b</sup> Ankara University, Faculty of Educational Sciences, Ankara, 06540, Turkey

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### Abstract

The purpose of this study is to make inter-country comparisons in accordance with TALIS implementation and to determine the countries at similar development in terms of education. With this respect, there was determined how the countries participated to this implementation according to the variables that take place within TALIS implementation have all been grouped together and there had also been determined the percentages of those specified groups in terms of school principal, teacher and school variables. The study population included secondary education school principals and secondary education teachers who were the target population of the study. The study sample included 200 schools from each country and 20 teachers from each school. In the study, there was used the data relevant to 16 variables that take place within teacher and school principals questionnaires of 23 countries participated in TALIS 2008. In accordance with the target of the study, there had been carried out cluster analysis in order to categorize countries participated in TALIS implementation according to specific variables. There was determined under how many clusters specified countries have been categorized according to school principals, teacher and school variables participated in TALIS implementation and also there was made comparisons among the clusters.

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Key words: TALIS, school principals, teacher, school

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### 1. Introduction

Recently, several studies have been carried out in different countries to make necessary arrangements on their teaching programs, to make up for deficiencies in the educational system and to see their own success levels at international level. These studies can be listed as Program for International Student Assessment (PISA), Trends in International Mathematics and Science Study (TIMSS), Progress in International Reading Literacy Study (PIRLS) and Teaching and Learning International Survey (TALIS).

Case determination studies performed at national and international level provides data to countries which will be helpful to make decisions on their educational policy. At this point, revealing weaknesses and strengths within the educational systems is very important. There will certainly be aspect to improve upon in every educational system. However, what the systems should focus on is very important (Caliskan, 2010). In this sense, PISA, TIMSS and PIRLS provide important clues to participant countries especially in terms of thinking process of students.

In a study carried out by Eraslan (2009) about Finland which has high success at PISA results, four factors about the educational system have been given emphasized for determining the success accomplished by Finnish students. These four factors are: Teacher training program, Traditional school life, Cultural views towards the teaching profession, and In-service teacher training. When these given factors were analyzed it was clearly noticed to what extent the teachers are important for this success.

Teachers are one of the most important aspects of the educational system. It is necessary to increase the quality of all aspects of the educational system for students to become more successful. For this reason, more qualified teachers, better curriculum, appropriate educational environment, qualified management, and more willing students are required (Çakır, 2004).

Corresponding Author: Betül Altalı Tel: +23 444747839

E-mail address: [betulkarakocalatli@gmail.com](mailto:betulkarakocalatli@gmail.com), [bbpehlivan@gmail.com](mailto:bbpehlivan@gmail.com)

When the importance of teachers in the educational system has been taken into consideration, it is beneficial to emphasize upon Teaching and Learning International Survey (TALIS). TALIS which has been considered as the first large scale international study that discusses teachers, the schools they teach, school administrators, in terms of different dimensions was conducted in 2008 with the participation of 23 countries including Turkey (Ministry of Education, 2010). In TALIS survey, the aim was to develop better teaching and learning practices and to create different approaches to reform schools into effective schools. Within this context, it was believed that knowing the situation of other countries will make a difference on this matter.

There have been a great number of secondary researches conducted upon PISA, TIMSS and PIRLS implementations. However, those researches have been inadequate at bringing forward proposals on “teaching and learning situations”. It is also remarkable that very few studies related to TALIS have been carried out. Accordingly, the problem statement of this research originates from the previous lack of interest on “teaching and learning situations” at international level and similarities and differences of the countries according to various educational features.

The purpose of this study is to make inter-country comparisons in accordance with TALIS and determine the countries similar in terms of development in education. In line with this basic goal, this study sought to answers these questions: (1) How have the countries participated in this implementation been clustered according to the specified variables? (2) How do the specified clusters range in terms of administrators, teacher and school variables?

## 2. Methods

The research is a correlational research which is one type of relational screening model. Study population has included secondary education school principals and secondary education teachers which is the target population of TALIS. Because there have not been an official secondary education classification in Turkish Educational System, elementary school administrators and in-field teachers lecturing in 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> grades have participated in the research. The study sample included 200 schools from each country and 20 teachers from each school. In this research, the data obtained from TALIS 2008 teacher and administrator questionnaires was used. Data was selected from “Creating Effective Teaching and Learning Environments: First Results from TALIS” report published by OECD in 2009 by picking various related variables. In order to determine the countries with similar characteristics and make intra-country comparisons is to beneficial to determine variables related to education. For this reason, data concerning 18 variables from 23 countries results was used. In accordance with the purpose of this study, cluster analysis was used in order to categorize countries participated in TALIS according to their specific characteristics.

## 3. Findings and Interpretations

In accordance with the first sub-goals of this research, there cluster analysis was performed using TALIS data. Hierarchical Cluster Analysis has been performed and

results of the performed analysis, six clusters were determined. Categorization of the countries according to six clusters can be listed as:

**1<sup>st</sup> Cluster:** Turkey, Malaysia, Korea, Portugal, Australia **2<sup>nd</sup> Cluster:** Belgium, Austria **3<sup>rd</sup> Cluster:** Ireland, Mexico, Malta, Brazil, Hungary, Denmark **4<sup>th</sup> Cluster:** Poland, Slovak Republic, Bulgaria **5<sup>th</sup> Cluster:** Norway, Iceland, Slovenia, Lithuania, Estonia **6<sup>th</sup> Cluster:** Spain, Italy

As result of the cluster analysis, countries participated in TALIS were categorized under six clusters. Determining the percentages of these obtained clusters according to the variables about school principals, school and teacher characteristics were necessary in order to make comparisons among the groups. Percentages of the six clusters in accordance with the specified variables have been given in Table 1.

Table 1. Percentage of Clusters in Terms of Specified Variables

	1	2	3	4	5	6	Top.
Percentage of female teachers	62,5	68,4	65,3	80,2	75,7	67,3	69,3
Percentage of female school principals	28,9	33,7	45,6	66,0	51,4	42,7	44,6
Percentages of bachelor's degree	79,9	2,8	80,1	7,0	56,0	9,2	52,4
Percentage of graduates	14,3	20,9	12,4	84,7	22,4	78,1	30,9
Percentage of associate's degree	4,7	71,8	3,4	5,6	16,4	5,5	12,9
Average number of students in schools	808,6	395,9	453,7	302,9	326,0	577,3	489,1
Average class size	29,3	19,3	25,3	20,9	19,7	21,5	23,5
Participants to career development activities within last 18 months	88,2	93,5	86,8	84,6	89,8	92,3	88,5
Percentage of the ones saying career development activities was not paid	55,7	62,6	68,9	62,7	74,1	61,8	65,2
Percentage of teachers below 25	3,5	4,5	4,4	2,3	1,7	0,3	3,0
Percentage of teachers over 60	1,4	0,9	3,1	3,1	8,3	5,4	3,9
Percentage of the ones having experience less than 3 years	9,8	6,5	8,9	7,1	8,4	5,6	8,3
Percentage of the ones having experience more than 20 years	24,7	45,6	32,0	40,1	40,4	44,3	35,6
Rate of teacher number to pedagogic support personal number	13,5	22,3	10,0	12,0	11,6	19,7	13,3

Rate of teacher number to school administrative officer number	7,8	17,2	7,9	6,2	7,7	8,2	8,4
Compulsory career development activities	58,0	32,5	51,2	44,0	54,3	53,4	51,0

When Table 1 was investigated, it could be easily determined the fourth cluster including Poland, the Slovak Republic and Bulgaria has the highest number of female teachers and the first cluster including Turkey, Malaysia, Korea and Australia has the lowest number of female teachers. Percentage of female teachers in all countries was calculated as 69.33%. The cluster in which the percentage of female school principals has been the lowest as the first cluster including Turkey and the highest is fourth cluster.

When percentage of teachers having bachelor's degree were analyzed great differences between the clusters were recognized. Accordingly, the highest percentage took place within the third cluster including Ireland, Hungary, Denmark, Mexico, Malta and Brazil and the lowest percentage was in the second cluster including Belgium and Austria. Percentage of teachers having bachelor's degree in all countries was calculated as 52.39%. When the percentages of teachers having the associate's degree were analyzed, the second cluster including Belgium and Austria emerged with higher percentage than the other clusters.

When the percentage of teachers having graduate degrees has been analyzed, the highest percentage was remarked in the fourth cluster including Poland, the Slovak Republic and Bulgaria and the lowest percentage was within the third cluster including Ireland, Hungary, Denmark, Mexico, Malta and Brazil. It was determined that the third cluster having the highest percentage on bachelor's degrees has the lowest percentage on graduate degrees. Percentage of the teachers having the graduate degrees in whole countries was found as 30.86%. This value could be expressed as quite lower than the bachelor's degrees.

When the average number of students at schools was analyzed, it was noticed that the highest percentage was within the first cluster including Turkey and the lowest percentage is in the fourth cluster. Average number of students at schools in all countries was determined as 489.

When average class size (average number of students in a classroom) was analyzed, the highest average occurred within the first cluster including Turkey, Malaysia, Korea, Portugal, Australia Turkey, Malaysia, Korea, Portugal, Australia Turkey, Malaysia, Korea, Portugal, Australia Turkey, Malaysia, Korea, Portugal, Australia and the lowest average was determined in the second cluster including Belgium and Austria. The average number of students in all countries was calculated as 23.

When the participation rate of teachers into career development activities was analyzed it wasn't any significant differences between the clusters. 88.5% of teachers on the all countries have participated in career development activity in the last 18 months. Compulsory career development activities have mostly been noticed in the first cluster.

As it can be predicted, teachers below the age of 25 and over 60 did not have a significant percentage among the general cluster and when those percentages were analyzed, it was noticed that percentage of teachers below 25 is even lower in the sixth cluster including Spain and Italy than the other clusters. Percentage of teachers below 60 years old can be specified as the highest in the countries included in the fifth cluster.

When experiences of teachers were analyzed, it was noticed that not only teachers having less than 3-year experience were highest in the first cluster including Turkey, Malaysia, Korea, Portugal, Australia but also teachers having 20-years or more experience was lowest in the same cluster. This reveals that the countries in the first cluster have had the young and inexperienced teachers. This situation also revealed the necessity of in-service training for these countries teachers. When the number of teachers was compared to pedagogic support personnel number and school administrative number, the second cluster had higher percentages than the other clusters.

#### 4. Conclusion and Suggestions

The countries participated in TALIS were categorized under six clusters according to teacher, school principals and school variables. When those clusters were analyzed, Turkey took place within the same cluster with Malaysia, Korea, Portugal and Australia and had the similar characteristics with those countries.

*Considering the current situation of other countries in accordance with the results, the suggestions below can be offered:*

- Female teachers should be encouraged to work at school administration. Number of school administrators and pedagogic support personnel should be increased.
- Teachers should be given an opportunity for a graduate degree.

- Teachers in first cluster comprised of the young population. In-service training of this young group should be given importance and necessary planning should be performed. Especially, career development activities oriented to special education should be included.
- Awareness of the teachers having associate's degree should be raised about participation in career development and financial support should be subsidized, if necessary.

*Suggestions to researchers:*

- Different categories can be categorized based on different variables.
- Success differences of the countries taking place in the same cluster can also be analyzed.

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