

# Identifying Professional Teaching Standards using Rasch Model Analysis: The Case of Northern Cyprus

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#### **Abstract**

*Problem Statement:* The Teacher's-Act defined for the state-school teachers of North Cyprus shows that teachers are not selected according to any specific standards. In North Cyprus, apart from the exam topics defined at the teacher's exam regulations, there is not any kind of identified standard for teachers. Training qualified teachers based upon the definite standards for integrating both universal and local conditions in North Cyprus requires identifying the professional teaching standards for North Cyprus according to students' culture and needs. Due to the importance of qualified teachers and quality in initial-teacher-training programs, teachers should be trained according to some definite standards.

*Purpose of the Study:* The purpose of the study is to validate the draft of professional teaching standards proposed for teacher development in North Cyprus using Rasch model analysis.

Method: Survey under quantitative paradigm has been applied. The samples of the study are state-school teachers and school administrators, full-time faculty members of various education faculties, executive board members of teachers' trade unions, chief/inspectors, educational experts and vice/general principals of the various departments at the Ministry of National Education (MNE). Random stratified sampling has been applied. A specifically designed scale, the Professional Teaching Standards' Scale, has been used for data collection purposes. This study has used the Rasch model to analyze data.

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Findings and Results: There are seven items not fitting the Rasch model which are mainly related to having knowledge on the characteristics of the students with special needs and ways of dealing with them (teachers and all groups), adapting learning according to the learners with special needs (teachers, school administrators and all groups), keeping students equal (teachers and all groups), believing that every student can learn (teachers, school administrators, faculty members, educational chief/inspectors and vice/general managers from the MNE and all groups), raising independent students through learning the learning strategies (faculty members, educational experts, chief/inspectors and vice/general managers from the MNE, and executive members of teachers' trade unions), improving teaching and learning process through assessment results (school administrators) and recognizing location of the school and community around the school (teachers and all groups). As the items not fitting the model, the results reveal that these items should be revised and re-written.

Conclusion and Recommendations: Among 52 items as draft professional teaching standards, seven of them are considered misfit. For this purpose, these items are recommended for revision. Revised items and the validated professional teaching standards are recommended to be in use under the control of the Ministry of National Education in the teaching and learning process in North Cyprus.

*Keywords*: Professional Teaching Standards, Professional Teaching Standards' Scale, Rasch Model and National Teacher Standards' Framework

The profiles of teachers and students are always changing. The teachers of tomorrow should know how to solve problems, how to develop communication and collaboration skills, and how to integrate technology skills into the educational program they follow. Recent changes in teacher and student profiles require raising highly qualified teachers by designing the most appropriate program, training them above the standards, and managing their continuous professional development. Thus, new research topics concerning teachers include designing reliable and valid standards-based classroom assessments, detecting student learning differences and adapting their lessons to those differences. As an initial point for catching up with recent innovations, teachers must be able to use new technologies for organizing and analyzing student data as well as to enable students to manage their own learning in collaboration with their colleagues, and therefore must learn new teacher leadership skills (Berry, 2007).

The Department of Education and Skills in Ireland (2012) has announced that quality of teachers plays a key role in designing initial teacher training programs, developing a national framework for professional teaching standards and managing professional development of teachers. Quality of teachers and quality of teaching are important factors in achieving higher learning in students. Developing a national

framework for professional teaching standards should be based on scientific principles, as professional teaching standards for a nation provide criteria for preparing the initial teacher training program. The principles of having internationally recognized teacher training systems should cover a highly qualified instructional system on pedagogy and pedagogical content knowledge and should focus on research skills as a basis for teaching and learning as well as a close and systematic cooperation with schools.

Having professional teaching standards for teachers is important because professional teaching standards are the main elements in the learning atmosphere of trainees, the key elements in the education system, and the initiator of educational reforms. Therefore, qualified teachers and their ongoing professional development should be considered a vital priority for a nation (European Commission, 2005, pp.1-2).

Professional teaching standards for a nation provide opportunities for those in the teaching profession to make sound decisions affecting the quality of the teaching-learning process. A well-developed standard-based framework supplies progress for the teaching profession to further improve the quality of the contribution it makes to the initial teacher training. Such a national framework gives rise to the continuous development of teachers (Kleinhenz & Ingvarson, 2007).

Developing a national framework for professional teaching standards has a positive effect on student success and student outcomes, and on improving the qualifications of teachers. Similarly, initial teacher training programs have significant impacts on student outcomes and on the quality of teachers (Darling-Hammond, 2010; Hattie, 2009; Musset, 2010). The initial intention of developing professional teaching standards is to use in the initial teacher induction programs (White, Makkonen & Steward, 2009). As time passes, the need to have professional teaching standards gives rise to teachers having more influence on decisions regarding teacher quality. For instance, in how they:

- 1. Gain entry to teacher preparation courses,
- 2. Train new teachers,
- 3. Gain registration and enter the teaching profession,
- Define what new teachers should know and what experienced teachers should "get better at,"
- 5. Set standards for good teaching and
- Assess and give recognition to teachers who attain high standards (Kleinhenz & Ingvarson, 2007, p. v).

Similarly, teachers' appointments can only be managed successfully if teachers are chosen according to the professional teaching standards. "Teaching standards are more useful for professional learning when they are designed with assessment in

mind. This renders them more helpful for self-assessment as well as feedback from colleagues and, thereby, professional learning" (Ingvarson & Kleinhenz, 2003).

The reasons for having a national framework are as follows (Ministerial Council on Education, Employment, Training and Youth Affairs, 2003):

- 1. To support the achievement of national goals of schooling,
- To provide a coherent approach to planned and systematic professional learning to improve teacher quality and teacher quality priorities,... including induction and mentoring, and supporting the continuing educational needs of experienced teachers,
- 3. To ensure the quality of education of every aspect,
- To provide greater assurance of the quality and consistency in teacher education outcomes and
- 5. To make sure that all teachers have achieved [the] minimum standards (p. 5).

Therefore, we can conclude that professional teaching standards play a central role in the development of highly accomplished teachers. They clearly direct teachers to what to do and/or what not to do, to what they need to know and understand about the complex nature of teachers and the teaching profession. Professional teaching standards define the professional capabilities of teachers, provide benchmarks for teacher appointment and evaluation and serve as guidelines for the institutions of higher education to design teacher preparation programs.

Upon graduating, teachers should meet the requirements of the professional teaching standards. Professional teaching standards can be used for defining what effective teaching is and presenting professional teaching standards embedded in practice at various levels of quality and competence. Professional teaching standards are useful for teachers in closely examining their teaching practices on their own and together with colleagues and supervisors, and are also useful for schools in building a systematic teacher evaluation mechanism (Sergiovanni & Starratt, 2007).

Initial teacher training in North Cyprus has various pathways to completion. To be a pre-school teacher (who trains 3-, 4- and 5-year-olds) or a primary school teacher, the trainee can study at the Teacher Training Academy. Atatürk Teacher Training Academy is the only governmental institution training pre-school and primary school teachers for the state/private schools. Semi-governmental and private universities also offer initial training for pre-school and primary school teachers as well as training regarding various teaching branches. Upon registering for the Faculty of Education, students can study initial teacher training. Candidates also have options to enter the common examination held by the Center for Measurement, Selection and Placement (OSYM) in Turkey. Upon registering for the Faculty of Education in Turkey, they can start studying at the Faculty of Education to be a teacher in the department they choose. In addition to this, students taking GCE

certificates throughout their high school studies can meet the entrance qualifications to the School of Education throughout the United Kingdom (Erden, 2011).

The content of programs and type of branches of the initial-teacher-training institutions in North Cyprus show variety. Semi-governmental and private universities follow initial-teacher-training programs offered by the Higher Education Council of Turkey in their undergraduate studies whereas the governmental institution, Atatürk Teacher Training Academy, follows a different program for initial teacher training. The governmental institution does not have a unique program in terms of content in parallel with the education faculties of the semigovernmental and private universities. Content of the initial teacher training of Atatürk Teacher Training Academy has been based upon the traditional models of initial teacher education. The program of Atatürk Teacher Training Academy is based on what Musset (2010) describes as "practical training, training through periods of the trainees in schools, through supervised teaching practice, methodology courses and subject-matter pedagogy," whereas semi-governmental and private universities follow a more modern model of initial teacher training. The program of semigovernmental and private universities has similarities to what Musset (2010) defines, which focuses on "comprehensive research-based knowledge on teaching and the transmission to apprentice teachers of a large repertoire of empirically validated teaching practices." The regulation of teaching practice at Atatürk Teacher Training Academy requires trainees to have teaching practice in the second, fifth, sixth, seventh, and eighth semesters (Internship Regulation of Atatürk Teachers' Training Academy 2007, 2013), whereas semi-governmental and private institutions, which apply the program of the Higher Education Council of Turkey, require trainees to have teaching practice mostly in the seventh and eighth semesters, depending on the initial teacher training program of the department, like the initial teacher training providers in Turkey (Eastern Mediterranean University, n.d). Atatürk Teacher Training Academy also trains only pre-primary and primary teachers whereas semigovernmental and private universities train teachers from various teaching branches including pre-primary and primary teachers.

The Public Service Commission, an autonomous commission, appoints teachers for public schools in North Cyprus after an exam. A written examination takes place out of 1000 points. Out of 1000 points, 650 are allocated for questions from field knowledge, 110 for questions from the Educational Sciences field (50% of questions from Educational Psychology, 35% from Curriculum Development and Instruction and 15% from Guidance), 70 for questions on legislation, 70 for questions in relation to verbal and numerical analysis, 60 for questions in relation to the general culture, 20 for questions on English language proficiency and 20 for questions in relation to computer usage. Applicants who achieve the minimum passing grade (600 points) are called for an interview. After being interviewed, the selected teachers are appointed to vacant positions in schools (The Teachers' Exam Regulation 2005, 2011). This shows that the content of the examination is limited and does not cover all fields in Educational Sciences. The Teacher's Act shows that teachers are not selected according to any specific standards. Earning a diploma from a relevant faculty and

having the pedagogical certificate and/or completing a 3-month accelerated course seems to be enough to be appointed as a teacher in public schools in North Cyprus. All items in the Teacher's Act are based on general principles (The Teachers' Act 1985, 2012).

The purpose of the study is to validate the draft professional teaching standards proposed for teacher development using the key stakeholders' perceptions through analysis of faculty members from institutions providing initial teacher training of teachers, vice/general principals, chief/inspectors and educational experts from MNE: vice/ school administrators and teachers from state schools and the executive members of teacher's trade unions comments about the nature of their work.

#### Method

Research Design

The study is a survey study under a quantitative paradigm. Surveys are conducted to take "opinions of a large group of people" (Fraenkel and Wallen, 2010, p. 390). This study aims to validate the draft professional teaching standards from the perspectives of teachers, school administrators, faculty members, executive members of teachers' trade unions, educational experts, chief/inspectors and vice/general principals from the Ministry of National Education.

Research Sample

The population of the study includes the teachers teaching for the state schools, vice-school administrators and school administrators serving for the state schools, full-time faculty members of education faculties in North Cyprus, executive board members of teachers' trade unions, chief inspectors, inspectors, educational experts, vice general principals and general principals from the various departments of the Ministry of National Education.

The method of sampling is stratified random sampling. The key stakeholders of the study are implemented on a scale, called Professional Teaching Standards' Scale, to explore to what extent the key stakeholders agree with the identified draft professional teaching standards to finalize the professional teaching standards. Table 1 shows the status of the key stakeholders, population and samples sizes as well as the number of scales returned and evaluated for the sake of this study.

**Table 1**Population and/or Sample Sizes of the Study

Status	Population	Sample Sizes	Number of Scales Returned	Number of Scales Evaluated
V/School administrators	289	174 100%	147 84.48%	119 68.39%
Teachers	3559	712 100%	534 75.00%	490 68.82%
Executive members of Teacher's Trade Unions	51	51 100%	48 94.18%	42 82.41%
Faculty members	119	119 100%	79 66.39%	52 43.69%
EE, C/I, V/GP from departments at the MNE	52	52 100%	35 67.31%	32 61.54%

As seen in Table 1, total number of scales sent to the vice/school-administrators is 174. Number of scales evaluated is 147 (84.48%) and number of scales returned is 119 (68.39%). Teachers were sent 712 scales in total. Number of scales returned is 534 (75.0%) and number of scales evaluated is 490 (68.82%). Total number of scales sent to the executive members of teachers' trade unions is 51. Total number of scales returned is 48 (94.18%) and number of scales evaluated is 42 (82.41%). Faculty members have been sent 119 scales in total. Number of scales returned is 79 (66.39%) and number of scales evaluated is 52 (43.69%). Total number of scales sent to the educational experts, chief/inspectors, and vice/general principals at the MNE is 52. Number of scales returned is 35 (67.31%) and number of scales evaluated is 32 (61.54%).

## Research Instrument and Procedure

There are four dimensions with 52 items in the scale. The dimensions include professional values and practice with 14 items, professional development and practice with 20 items, teaching and learning process with 13 items and finally professional relationship and practice with 5 items. A 5-point Likert has been added to the scale for measuring to what extent the draft professional teaching standards are acceptable in North Cyprus. The Likert was ranged from strongly agree (5) to strongly disagree (1). Options are respectively Strongly Agree (5), Agree (4), Agree on Middle level (3), Seldom Agree (2), and Strongly Disagree (1). Implementing the scale was conducted from the very beginning of October 2012 to the end of December 2012. Data were collected using the Professional Teaching Standards' Scale (PTSS), prepared specifically for the current study.

The responses to the Professional Teaching Standards' Scale in the study were analyzed using the Rasch model. The outcomes of the study reveal, "The analysis of the reliability of estimates and item fit were undertaken using a Rating Scale model.

The benefit from this treatment is that the analyses provided a statistical measure of the homogeneity of responses to items within the construct." The outcomes of the study also reveal "The measures of homogeneity included *fit statistics* (infit mean square and infit *t*, and item and case separation reliability estimates. Separation reliability estimates over 0.7 being considered acceptable)" (Pegg, McPhan, Mowbray and Lynch, 2011, p. iii), and Infit mean square values of between 0.7 and 1.4 indicate that data are compatible with the model.

Pegg, McPhan, Mowbray and Lynch (2011, p. iii) state, "In all instances the item and case reliability indices are well above the 0.7 benchmark accepted as determining acceptable reliability." They add, "Infit mean square statistics are, in all cases, close to '1.00' with any variance of + or - 0.01 seen as indicating either 1% more or less variance between the observed and predicted model than estimated by the model." They also state, "In all but one case, the infit t statistics are close to zero and therefore seen as indicating reliability of the estimates."

The study addressed the internal validity of the descriptors in terms of the level of agreement, providing evidence of the validity of the standards and their usability. The design highlights the significant role for the profession in determination of the standards. The Rasch model used for the current study has four facets. Facet 1 (teachers), facet 2 (vice/school administrators), facet 3 (faculty members, vice/general principals, chief/inspectors and educational experts from MNE and executive members of teachers' trade unions, called others) and facet 4 (all groups). Data Analysis

Data obtained using the PTSS of the study were analyzed using the Rasch model (Linacre & Wright, 1995). The data were obtained through the perceptions of the samples using the PTSS. The scale is helpful for identifying professional teaching standards and separating fit items from misfit items.

## Results

The findings obtained through the data collected from multiple key stakeholders for finalizing the draft professional teaching standards in North Cyprus are presented. The aim of the validation study of the draft professional teaching standards is to validate the draft professional teaching standards proposed for the teacher development using the perceptions of faculty members from institutions providing initial teacher training of teachers, vice/general principals, chief/inspectors and educational experts from MNE, vice/school administrators and teachers from state schools and the executive members of teacher's trade unions as they comment about the nature of their work.

Professional teaching standards identified as not fitting the model were used to determine the level of agreement of the key stakeholders and to inform further refinement of the professional teaching standards. These professional teaching standards are itemized below.

Table 2
The List of PTS Not Fitting The Model Across Key Stakeholders' Group

PTS	φ	V/School Administrators		sdn
	Teachers	V/School Administ	Others	All-Groups
Treat learners equally and act constructively towards them	$\checkmark$			<b>√</b>
3. Build on a belief that all learners can learn and be successful	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
32. Have knowledge on the characteristics of the learners with special needs and ways of dealing with them	$\checkmark$			$\checkmark$
40. Adapt learning according to the learners with special needs	$\checkmark$	$\checkmark$		$\checkmark$
42. Make learners learn learning strategies whenever necessary			$\checkmark$	
46. Use the assessment results to improve teaching		$\checkmark$		
49. Recognize the location of the school and community living around the school	$\checkmark$			$\checkmark$

Although the strength of support for professional teaching standards varied, from a statistical perspective most professional teaching standards are seen to fit the Rasch model. A small number of PTS are seen to not fit the models across key stakeholder groups and these are indicated in Table 2 with " $\sqrt{}$ " denoting misfit. The responses to these PTS suggest that there may be issues relating to their implementation or interpretation in practice. It is apparent that the anomalous results fall within a small number of focus areas, particularly those related to students with special needs and learning environment.

There are a number of PTS that exhibited overfit/misfit suggesting that these PTS represent areas of teaching that respondents regarded as core to their role, such as planning well-structured learning programs and learning sequences that are based on relevant pedagogical strategies.

**Table 3** *Infit Mean Square Statistics And Infit T Statistics For Vice/School Administrators* 

PTS	MNSQ	t	PTS	MNSQ	t
S1	1.18	0.8	S27	1.06	0.4
S2	1.15	0.38	S28	1.16	0.9
<b>S3</b>	2.12	5.9	S29	1.23	1.4
S4	0.94	-0.3	S30	0.92	-0.5
S5	1.28	1.6	S31	1.01	0.1
S6	1.23	1.3	S32	1.41	2.4
S7	0.99	-0.0	S33	0.69	-2.1
S8	0.96	-0.2	S34	1.02	0.2
S9	0.84	0.9	S35	1.16	1.0
S10	0.62	-2.6	S36	0.88	-0.7
S11	1.20	1.2	S37	0.94	-0.3
S12	0.83	-1.1	S38	0.96	-0.2
S13	1.07	0.5	S39	1.03	0.2
S14	1.19	1.1	S40	1.80	4.4
S15	1.00	0.0	S41	0.77	-1.5
S16	0.65	-2.3	S42	0.75	-1.6
S17	0.58	-3.0	S43	1.49	2.7
S18	0.73	-1.7	S44	0.88	-0.7
S19	1.04	0.3	S45	0.84	-1.0
S20	0.81	-1.2	S46	0.47	-4.0
S21	0.93	-0.4	S47	1.00	0.1
S22	0.75	-1.6	S48	1.21	1.1
S23	0.89	-0.6	S49	1.37	2.1
S24	0.87	-0.8	S50	1.37	2.2
S25	1.10	0.6	S51	0.94	-0.3
S26	1.11	0.7	S52	1.05	0.4

Separation Reliability: 0.927

 $\chi^2$ : 659.23, df: 51, sig: 0.00

For administrators, most standards are seen to fit the models. A small number of standards are seen not to fit the models, and these are identified in Table 3 with bold denoting misfit. There are only three standards that exhibited misfit, suggesting that these standards represent areas of teaching that respondents regarded as core to their role that are based on relevant pedagogical strategies.

**Table 4** *Infit Mean Square Statistics And Infit T Statistics For Teachers* 

Standards	MNSQ	t	Standards	MNSQ	t
S1	1.44	4.8	S27	1.10	1.6
S2	1.14	1.9	S28	0.97	-0.5
<b>S3</b>	2.42	17.9	S29	1.13	2.0
S4	0.97	-0.5	S30	0.96	-0.6
S5	1.26	3.5	S31	0.97	-0.5
S6	1.24	3.5	S32	1.36	5.4
S7	0.95	-0.7	S33	0.92	-1.4
S8	1.07	1.1	S34	0.95	-0.8
S9	0.97	-0.5	S35	1.19	2.7
S10	0.91	-1.3	S36	0.89	-1.7
S11	0.98	-0.3	S37	0.94	-0.9
S12	1.04	0.6	S38	0.88	-1.9
S13	1.21	3.3	S39	0.89	-1.7
S14	1.26	3.7	S40	1.57	8.2
S15	1.16	2.3	S41	0.89	-1.7
S16	0.87	-2.0	S42	1.03	0.5
S17	0.82	-3.0	S43	1.10	1.6
S18	0.90	-1.5	S44	0.93	-1.00
S19	1.01	0.1	S45	0.94	-1.00
S20	0.95	-0.8	S46	0.87	-2.1
S21	1.11	1.6	S47	0.94	-0.9
S22	0.95	-0.7	S48	1.18	2.5
S23	0.89	-1.8	S49	1.40	5.8
S24	1.12	1.8	S50	1.13	2.1
S25	0.99	0.1	S51	1.13	2.0
S26	1.11	1.7	S52	1.23	3.5

Separation Reliability: 0.989

χ<sup>2</sup>: 4772.50, df: 51, sig: 0.00

As seen in Table 4, except a few standards, most Infit mean square values are around 1.00 (between 0.7 and 1.4) and infit t statistics are close to zero. These findings shows that most standards do not exhibit misfit. For teachers, there are five professional teaching standards that exhibited misfit. These are identified in Table 4 in bold. These professional teaching standards represent areas of teaching that respondents regarded as core to their role that are based on relevant pedagogical

strategies. These areas are critical to any future roll-out of the standards. The responses to these professional teaching standards suggest that there may be issues relating to their implementation or interpretation in practice.

**Table 5** *Infit Mean Square Statistics And Infit T Statistics For Others* 

Standards	MNSQ	t	Standards	MNSQ	t
S1	1.29	1.1	S27	1.06	0.4
S2	1.17	0.9	S28	0.90	-0.5
<b>S3</b>	2.80	8.4	S29	1.00	0.1
S4	1.07	0.4	S30	0.94	-0.4
S5	1.17	0.9	S31	0.89	-0.7
S6	1.21	1.2	S32	1.43	2.7
S7	0.98	-0.0	S33	1.12	0.8
S8	1.13	0.8	S34	1.12	0.7
S9	1.20	1.1	S35	1.25	1.4
S10	1.10	0.6	S36	0.96	-0.2
S11	1.14	0.8	S37	0.79	-1.3
S12	1.23	1.4	S38	0.99	-0.0
S13	1.59	3.3	S39	1.07	0.4
S14	1.47	2.6	S40	1.44	2.6
S15	1.25	1.5	S41	0.64	-2.3
S16	0.94	-0.3	S42	1.68	3.5
S17	0.85	-0.9	S43	0.92	-0.4
S18	0.98	-0.1	S44	1.00	0.0
S19	0.99	0.0	S45	1.16	1.0
S20	0.85	-0.9	S46	0.93	-0.4
S21	0.92	-0.4	S47	1.00	0.1
S22	0.88	-0.6	S48	1.06	0.4
S23	0.97	-0.1	S49	1.38	2.3
S24	1.03	0.2	S50	0.86	-0.9
S25	0.93	-0.4	S51	0.95	-0.3
S26	1.04	0.3	S52	1.22	1.4

Separation Reliability: 0.952  $\chi^2$ : 993.69, *df*: 51, sig: 0.00

For others (faculty members, vice/general principals, chief/inspectors and educational experts from the MNE and executive members of teachers' trade unions), there are two professional teaching standards that exhibited misfit. These standards are related to understanding and believing in student learning (see bold items in Table 5).

**Table 6** *Infit Mean Square Statistics And Infit T Statistics For All Groups* 

Standards	MNSQ	t	Standards	MNSQ	t
<b>S1</b>	1.44	4.8	S27	1.10	1.6
S2	1.14	1.9	S28	0.97	-0.5
S3	2.42	17.8	S29	1.13	2.0
S4	0.97	-0.5	S30	0.96	-0.6
S5	1.26	3.5	S31	0.97	-0.5
S6	1.24	3.5	S32	1.36	5.4
S7	0.95	-0.7	S33	0.92	-1.4
S8	1.07	1.1	S34	0.95	-0.8
S9	0.97	-0.5	S35	1.19	2.7
S10	0.91	-1.3	S36	0.89	-1.7
S11	0.98	-0.3	S37	0.94	-0.9
S12	1.04	0.6	S38	0.88	-1.9
S13	1.21	3.3	S39	0.89	-1.7
S14	1.26	3.7	S40	1.57	8.2
S15	1.16	2.3	S41	0.89	-1.7
S16	0.87	-2.0	S42	1.03	0.5
S17	0.82	-3.0	S43	1.10	1.6
S18	0.90	-1.5	S44	0.93	-1.0
S19	1.01	0.1	S45	0.94	-1.0
S20	0.95	-0.8	S46	0.87	2.1
S21	1.11	1.6	S47	0.94	-0.9
S22	0.95	-0.7	S48	1.18	2.5
S23	0.89	-1.8	S49	1.40	5.8
S24	1.12	1.8	S50	1.13	2.1
S25	0.99	-0.1	S51	1.13	2.0
S26	1.11	1.7	S52	1.23	3.5

Separation Reliability: 0.989  $\chi^2$ : 4772.50, *df*: 51, sig: 0.00

For all groups, the results are similar to the results from the teachers. There are five standards that exhibited misfit, suggesting that these standards represent areas of teaching. Infit mean square values of some of these standards are over 1.4 and infit t statistics of these standards are very high. These standards represent areas of teaching. These areas will be critical to any future roll-out of the standards. The responses to these standards suggest that there may be issues relating to their implementation or interpretation in practice (see bold items in Table 6).

#### **Discussion and Conclusion**

The draft professional teaching standards describe what teachers should know, value and be able to do. The validated professional teaching standards supply a shared language for professional debates between teachers, educational experts, teachers' trade unions, professional associations and the community. Particularly, the standards state clearly the knowledge, skills, dispositions and attributes required for teaching. The validated professional teaching standards support the continuous professional development of teachers. Additionally, such a well-designed study, which involves data from the key stakeholders' views and concerns, has the potential to provide new ways of recognizing and performing high-quality teaching among the schools in North Cyprus.

Items not fitting the model are explored below. Treating learners equally and acting constructively towards them (S1) was found to misfit the Rasch model. In a study on the views of elementary school students regarding teachers' efficiency, elementary school students noted that a successful and efficient teacher should have such characteristics such as love for children, being patient and tolerant, treating everybody equally and having a smiling face (Gökçe, 2002). Similarly, Paliç and Keleş (2011) find that teachers of primary and secondary school give equal importance to "the concepts of caring about students, maintaining good communication and empathy." In addition to this, only secondary school teachers give rise to concepts of "avoiding negative criticism" and "calling the students with their names."

The standard of building a belief that all learners can learn and be successful (S3) has been found to misfit the model. There is a belief that every learner can learn and be successful. This belief is a part of multiple intelligences theory. A teaching approach based on the theory of multiple intelligences is an effective theory for reaching the desired goals. Having empathy towards multiple intelligences theory means every student can learn and believe that every student can act as an intelligent individual. Considering this point of view, the most important contribution of the multiple intelligences theory of education is to widen education by going beyond the frames of the logical-mathematical and verbal-linguistic intelligences (Gülfil, 2010). In the same way, Şaban (2002) believes that the goal of education while using multiple intelligences theory is to present cognitive, emotional and motor skills of subject, content and theme within the theoretical framework of at least eight different methods. Bak (2004) says that in putting into practice the theory of multiple intelligences there is not any standardized teaching method, style or approach to mention. Multi-

ple intelligences theory forces teachers to use a combination of various teaching models, styles and/or approaches in their classes. Teachers' adoption of the idea of multiple intelligences based instruction support the view that every learner can learn and be successful.

The standard item on having knowledge on the characteristics of learners with special needs and ways of dealing with them (S32) is found to misfit the model. In most classes from the pre-primary to high school level, there are students with special needs. However, the programs of the sectors have been designed according to the regular students. The program designers never take into account the needs and existence of the students with special needs in classrooms in North Cyprus. Inclusive education is offered to these students at the pre-primary and primary levels. However, this service is limited to these levels. In the same way, teachers plann various and different applications regarding the inclusive students, but a study found that teachers who could not get the necessary education for students with special needs plan, design and present their instructions inadequately and failed to manage the education of students with special needs (Gök & Erbaş, 2011).

The standard item on adapting learning according to the learners with special needs (S40) is found to misfit the Rasch model. Every teacher candidate should be trained for the possibility of having students with special needs in their classes. This requires revision of the educational programs and of the education faculties as well as adding relevant methodology courses regarding training students with special needs. Bayraktar and Çınar (2010) note that teachers until very recently have not had any training on how to teach the students with learning difficulties.

The standard item on making learners learns learning strategies whenever necessary (\$42) is found to misfit the model. Each student has a unique learning style and strategy, and students should know about their learning style and strategy. Teachers, in the same way, should teach students how to master different learning strategies as tailored to individual needs. Teaching the students to learn learning strategies can be managed with knowledge and skills in the learning strategies and their characteristics and in usage forms of the learning strategies and on the places using learning strategies. If teachers do not have the necessary knowledge and skills for teaching learning strategies to students, then neither teachers nor students can benefit from the learning strategies. It has been suggested that an introduction to learning strategies be included in the curriculum from primary level to the end of the higher education (Özer, 2008). Similarly, the learners should take responsibility for the learning process and contribute to the teaching and learning process effectively. The usage of the most convenient learning strategies has close ties to the management of learning. Knowledge and skills in relation to learning strategies should be given to each learner starting from the primary school level. This brings the learner a sense of achievement in formal education and success throughout their lives after formal education (Erdem, 2005).

The item on using the assessment results to improve teaching (S46) is found to misfit the model. Using classroom-assessment results provides benefits to both stu-

dents and family. Having an on-going emerging picture of how students learn and what they are learning inevitably provides valuable information to inform the curriculum process. Analysis of the student data has shown that while students may be hesitant to try something new, they readily admit that the value of assessment comes from their ability to use the data to become more efficient students (Center for Effective University Teaching and GE Master Teacher's Team, 2001, 17). Assessment results show teachers which students in the class have not mastered the teaching point/s, which educational objective has not been met, what kind of instructional strategies and methods the students need to cover next and what errors exist in the process of teaching and learning. The assessment process is a means of collecting data on student understanding. Black and William (1998) suggest that instructions and formative assessment are indispensable parts of each other. Assessment has been defined as all kinds of activities teachers undertake to "provide information to be used as feedback to modify teaching and learning activities.... [It is] formative assessment when the evidence is actually used to adapt the teaching to meet student needs" (p. 140). It is recommended to have stronger formative assessment, which increases student achievement. Assessment requires providing good feedback practices to the students (Raivoce, 2009).

The item on providing the location of the school and community living around the school (S49) has been identified as misfit by the samples of the current study. If the school is located around high-income families, then the community living around the school may have related barriers. There are barriers identified for minorities and low-income families involving students' learning at school. These barriers are defined as "contextual factors (particularly time constraints, child care needs, and transportation problems), language differences, cultural beliefs about the role of families in their children's schooling, families' lack of knowledge and understanding of U.S. educational processes and exclusion and discrimination issues" (Boethel, 2003, v). This shows that the location of the school is the deciding point in the type of barriers. This may be helpful in being aware of the type of barriers that might appear due to the location of the school and the community living around the school. Parents of low-income students may not show proper interest to parent and community involvement. Parent and community involvement that is linked to improving student learning has a greater effect on achievement than more general forms of involvement. High student achievement can be produced more readily than parent engagement. High standards, expectations for all students, curriculum, instruction, assessment, effective leadership, frequent monitoring of teaching and learning, continuous professional development, and high levels of parent and community involvement have been identified as the main features associated with student improvement. There is a positive and convincing relationship between location of schools, family involvement and benefits for students, including improved academic achievement. This relationship holds across families of all economic, racial/ethnic and educational backgrounds and for students at all ages (Henderson and Mapp, 2002). The recommendations are as follows:

- Rasch model analysis has been used for analyzing the data of the scale. The
  Rasch model is a strong model for identifying professional teaching
  standards. It allows use of various facets in a study. While proposing a
  national framework, the Rasch model with various facets should be used.
- The proposed national framework should be used for 5-7 years, then revisited
  and revised. While revising the proposed national framework, the practical
  issues concerning the national framework and the performance statements
  should be included in the national framework. The framework can be refined
  and expanded using already-developed dimensions and professional teaching
  standards by participation of the key stakeholders at higher levels.
- The professional teaching standards that misfit the Rasch model (S1, S3, S32, S40, S42, S46 and S49) should be put into focus group discussions with the working group members to discuss why they do not fit the model and how to adjust them to fit the model. Then, with the suggestions from the working group members, a 5-point Likert Scale should be developed to explore to what extent the key stakeholders agree with the revised form of the seven professional teaching standards. If they fit the model, then they should be included in the proposed national framework.
- There are 45 standard items found to fit the Rasch model. This proves that these standard items should be accepted and used as the part of the national framework as the professional teaching standards of North Cyprus. The Ministry of National Education should take necessary steps, as the current research is the sole study identifying the professional teaching standards in North Cyprus, which deserves to be taken into careful consideration.

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# Rasch Model İle Öğretmenlik Meslek Standartlarının Belirlenmesi: KKTC Örneği

#### Atıf:

Alibaba Erden, H., & Ozer, B. (2013). Identifying professional teaching standards using rasch model analysis: The case of Northern Cyprus. *Egitim Arastirmalari-Eurasian Journal of Educational Research*, 53, 175-196.

#### Özet

Problem Durumu: Kuzey Kıbrıs Türk Cumhuriyeti (KKTC) 25/1985 sayılı Öğretmenler Yasası uyarınca, devlet okullarında görev alacak olan ortaeğitim öğretmenlerinin, öğretmenlik mesleğine ilk girişinde, bir üniversiteden mezun olmaları ve pedagojik formasyonlarının olması, ilkokul öğretmenlerinin ise en az lise mezunu olma ve dört yıl geçici çalışma ve 3 aylık hızlandırılmış kursu bitirme veya KKTC'de İngiliz döneminden beri ilkokul öğretmeni yetiştiren Öğretmen Akademisi mezunu olma şartları bulunmaktadır. Son zamanlarda, okul öncesi öğretmenlerinin de Öğretmen Akademisi mezunu olması şartı aranmaktadır. KKTC'de öğretmen yetiştiren yüksek öğrenim kurumlarının yanısıra Türkiye ve üçünçü ülke olarak adlandırılan diğer ülkelerin yükseköğrenim kurumlarından mezun olanlar öğretmenlik için yapılan sınava girebilmektedir. KKTC, kendişinde bulunan yükseköğrenim kurumları dahil olmak üzere nasıl bir öğretmen yetiştirebileceğine ilişkin düzenlemeler yapamamaktadırlar. Öğretmenler Yasasınına göre, öğretmen olarak atanabilmenin şartları oldukça genel

sayılabilecek maddeler içermektedir. Farklı kaynaklardan öğretmen istihdam eden Kuzey Kıbrıs eğitim sisteminde, açıkca belirlenmiş standartların olması, öğretmen kalitesini artıracaktır. Başlangıç eğitiminde kaliteli öğretmen yetiştirmenin önemi yadsınamaz. Bu nedenle, öğretmenlik mesleki standartlarının belirlenmesi gerekli görülmektedir. Kuzey Kıbrıs Öğretmenler Yasasına göre, öğretmenlik mesleki standartlarının belirlenmesinin çok büyük önemi vardır. Öğretmenlik mesleki standartlarına sahip olmak, ülkelerin eğitim sistemlerine olumlu katkı yapmaktadır. Öğretmenlik meslek standartları, öğretmenlerin başlangıç eğitimlerindeki kalitesini yükseltmekte, öğretmenlerin, öğretmenlerin başlarken belirli standartlara göre atanımalarını sağlamakta, denetleme sırasında, müfettişlerin öğretmenlerden ne beklendiğine ilişkin ilkelerin belirlenmesini sağlamakta ve okul yönetimininin öğretmenler ne beklemesi gerektiğinin sınırlarını çizmektedir. Ayırca, bu standartlar, öğretmenlerin mesleki gelişimlerine olumlu katkı koymakta ve öğretmenlerin kendi kendilerini değerlendirmelerini sağlamakta, kendilerinden ne beklendiğini bilmelerini sağlamaktadır.

Araştırmanın Amacı: Bu araştırmanın amacı, Kuzey Kıbrıs Türk Cumhuriyeti eğitim sisteminde görev yapan öğretmenlerin taslak olarak belirlenmiş olan öğretmenlik mesleki standartlarının KKTC eğitim sistemine dair görüşlerinin, Rasch analiz modelini kullanarak analizinin yapılarak belirlenmesidir.

Araştırmanın Yöntemi: Bu çalışmada, nicel araştırma deseni ile tarama modeli kullanılmaktadır. Araştırmaya katılan örneklem grubunu ise, devlet okullarında çalışan okul öncesi, ilkokul, ortaokul, lise seviyelerindeki öğretmenler, okul yönetiminde yer alan müdür ve müdür muavinleri, ilkokul ve ortaeğitim öğretmen sendikalarını seçimle gelen yönetim, disiplin ve yürütme kurullarında görevli öğretmenler, Milli Eğitim, Gençlik ve Spor Bakanlığı'nın çeşitli müdürlüklerinde yetkili daire müdürü, daire müdür yardımcısı, eğitim uzmanı, denetmen ve baş denetmenler, Kuzey Kıbrıs Üniversiteleri`ndeki eğitim fakültelerinde tam-zamanlı çalışan eğitim bilimleri bölümü doktora derecesine sahip akademisyenlerinden oluşmaktadır. Ölçek, random olarak belirlenen 119 yönetici, 490 öğretmen, 42 anaokul ve ilkokul öğretmenler sendikası ile ortaeğitim sendikası yönetim, disiplin ve yürütme kurulu üyeleri, 52 akademisyen ve 32 Milli Eğitim Bakanlığı üst düzey yöneticileri, baş/denetmen ve eğitim uzmanlarına uygulanmıştır. Özellikle bu çalışma için desenlenen Taslak Öğretmenlik Mesleği Standartları Ölçeği kullanılmıştır. Ölçekte dört boyutta toplam 52 yeterlik maddesi bulunmaktadır. Ölçeğin boyutları "Mesleki Değerler ve Uygulama" 14 yeterlik maddesi, "Mesleki Gelişim ve Uygulama" 20 yeterlik maddesi, "Öğrenme-Öğretme Süreci" 13 yeterlik maddesi ve "Mesleki İlişkiler ve Uygulama" 5 yeterlik maddesi şeklindedir. Ölçekte yer alan her boyut ve boyutlardaki standartlar araştırmanın nitel boyutunda oluşturulan çalışma grubu tarafından belirlenmiştir.

Bu çalışmanın analizinde, Rasch model kullanılmıştır. Bu modelde, öğretmenler, okul yöneticileri, diğer paylaşımcılar (akademisyenler, öğretmen sendikalarında görevli öğretmenler, Milli Eğitim Bakanlığı daire müdür ve müdür yardımcıları, eğitim uzmanları ve denetmenler) ve tüm gruplar olarak dört yüzey kullanılmıştır.

Araştırmanın Bulguları: Araştırma sonucuna göre, 52 maddelik taslak mesleki standartlardan yedi yeterlik maddesinin Rasch analiz modeli ile uyuşmadığı belirlenmiş-

tir. Bu maddeler, mesleki değerler ve uygulama boyutundan öğrencilere eşit ve yapıcı davranma (öğretmenler ve tüm gruplar açısından) ve bütün öğrencilerin öğrenebileceğine ve başarılı olabileceğine inanma (öğretmenler, okul yöneticileri, akademisyenler, Milli Eğitim Bakanlığı genel müdür, müdür yardımcısı, eğitim uzmanı ve müfettişler ile tüm gruplar açısından), mesleki ilişkiler ve uygulama boyutundan, özel gereksinmesi olan bireylerin özelliklerini ve onlarla ilgilenme vollarını bilme (öğretmenler ve tüm gruplar), öğrenme ve öğretme sürecinden öğretimi özel gereksinmeli öğrencilere uyarlama (öğretmenler, okul yöneticileri ve tğm gruplar açısından), öğrencilerin gereksinme doğduğunda öğrenme stratejilerini öğrenmelerini sağlama (akademisyenler, Milli Eğitim Bakanlığı genel müdür, müdür yardımcısı, eğitim uzmanı ve müfettişler, öğretmen sendikaları yürütme, yönetim ve disiplin kurullarında görevli öğretmenler açısından) ve öğrencilerin öğrenmeyle ilgili değerlendirme sonuçlarını öğretimi iyileştirmek için kullanma (okul yöneticileri açısından) ve mesleki ilişkiler ve uygulama boyutundan ise okulun bulunduğu yerin ve orada yaşayan toplumun özelliklerini tanıma (öğretmenler ve tüm gruplar) şeklinde belirlenmiştir.

Araştırmanın Sonuçları ve Öneriler: Araştırmanın sonucunda, Rasch analiz modeline uymadığı belirlenen yedi maddenin tekrar gözden geçirilmesi gerekmektedir. Bu maddelerin tekrar gözden geçirilmesi için, ilgili yedi maddeyi içeren bir görüşme formunun oluşturulması, bu amaç için oluşturulacak olan ve öğretmenlik mesleki standartlarını etkin olarak kullacak kesimlerin temsiliyetiyle oluşturulacak bir çalışma grubu ile, odak grup görüşme yada karşılıklı görüşme yöntemlerinden birini kullanarak, ilgili maddelerin uygunluğunun tartışılması gerekmektedir. Çalışma grubuyla yapılan çalışmadan sonra, ortaya çıkan görüşme formu, ankete dönüştürülerek, 5'li Likert kullanılarak, tüm ilgililere (öğretmenler, okul yöneticileri, öğretmen sendikaları yönetimi disiplin ve yürütme kurullarında görevli öğretmenler, Milli Eğitim Bakanlığında görevli genel müdür, müdür yardımcısı, eğitim uzmanları, denetmen ve baş denetmenler) anketin uygulanması gerekmektedir. Paydaşlarca kabul edilen öğretmenlik mesleki standartlarının KKTC Milli Eğitim Bakanlığı kontrolünde Öğretmenlik Meslek Standartları Ulusal Çerçevesi olarak kabul edilmesi önerilmektedir.

Anahtar Sözcükler: Öğretmenlik mesleği standartları, Öğretmenlik Mesleği Standartları Ölçeği, Rasch Model ve Ulusal Öğretmen Standartları Çerçevesi