Universal Journal of Educational Research 4(7): 1601-1613, 2016 http://www.hrpub.org
DOI: 10.13189/ujer.2016.040713

An Analysis of Teachers' Opinions about Their Knowledge of Curriculum Terms Awareness

Hasan Huseyin Ozkan

Faculty of Education, University of Suleyman Demirel, Turkey

Abstract The purpose of this research is to determine the teachers' awareness of curriculum terms and the level of their knowledge and to develop a valid and applicable measurement tool that can be used in determining the teachers' awareness of curriculum terms and the level of their knowledge. This research is in survey model. The data collection tool used in this study is developed by the researcher and applied to 602 teachers. The obtained data is analyzed using statistical techniques such as percentages, frequency, arithmetic average, T-test and ANOVA. According to the findings; the mean of teachers' terms awareness is over 60% in terms of the frequency percentages calculated for the overall survey, and the mean of each section is over the half of the maximum level. According to the findings for the subsections of the survey, it is clear that female teachers, teachers having a post graduate degree, primary and secondary school teachers, primary school teachers and classroom teachers have higher curriculum terms awareness than those of male teacher, teachers having a graduate degree, high school teachers, secondary school teachers and branch teachers, respectively, and that the term awareness of teachers having 1-10 years of seniority significantly differs from those of the teachers having more than 10 years of seniority.

Keywords Teachers, Teacher Opinions, Curriculum Terms, Curriculum Term Awareness

1. Introduction

In the era we live, all tendencies show dramatic changes. These changes in the field of science and technology, affect the education sphere and practices closely too [1]. Change and developments in modern societies show significant impact on education system, its most basic element curriculum and teachers and teaching profession which is the executive of these curriculums.

Education and training activities are carried out in a plan. Education understanding in modern societies, considers it is mandatory to have a more efficient and quality education system organization. One of important factors providing this system to work as planned is the curriculum. Typically, curriculum is the work of regulating experiences to be taught students. Considering it can be described by various means, curriculum term is the training experience plan which covers fields of planned educational activities of individuals, both inside and outside of the school [2, 3, 4, 5, 6, 7, 8, 9]. As it can be understood from the description, curriculum includes all activities inside and outside of the school which are planned to be taught individuals. While Demirel [6] considers the curriculum as the mechanism of training experiences for the learner through planned activities both inside and outside of the school, Ranold C. Doll [10] (p. 8) claims that it is a process and content of mechanism of all experiences changing students' values, approaches, attitudes and allowing them to develop their own skills and to gain information and understanding with the responsibility of the school. According to Posner [11], curriculum, with a different perspective, is both a series of training products ensuring the decision for teaching and evaluation, and a plan or content design of goals and subjects of a department.

It is clear that curriculum is an action plan which is considered as a goal, subject or content design, carried out with the control of the school, both in and out of its borders. This action plan consists of, when modern curriculums taken into consideration; goals relating to a field, content regarding these goals, educational status which will be affective in gaining these goals and content by the student and exposure process of curriculum's effectiveness.

With the curriculum, one frequently used term is curriculum development terms or process. Curriculum development terms or process has a significant place in education systems' successes and it is the collection of dynamic relations among factors of curriculum's goal, content, educational status and evaluation [6, 13, 14]. In this dynamic relation, goal describes behaviours to be taught the learner, content describes the total of the subject area or content convenient with goals, educational status means learning and teaching models, teaching technologies with the means of approach, strategy, method and techniques to reach goals, and evaluation is to test goals and behaviours to see how successful they are and determine the education quality. All these factors' influencing each other and being in dynamic relations is one of the important features of curriculum development process.

Even though curriculum development process is generally done by experts, in this process, teachers also have important

tasks. Teachers are important part of the curriculum development process and have significant place as executers of the process. Because, teachers, in the curriculum development process, are carrying out important tasks especially in testing and evaluating the process. Success and the quality of the curriculum depend on the quality of the process. Success of the education system, on the other hand, is directly related to the student success. Success of students is affected by factors like student, curriculum, leaders, teachers, and educational experts, education technologies, physical and financial opportunities [15]. However, actual architects of the success are teachers who design, execute and evaluate the learning-teaching process. Interactive execution of learning-teaching processes will increase the success of the education system and the student. This success of teachers will change accordingly with their competence. Also, in teacher competences, teaching profession knowledge, skill and technology literacy has an important place [16]. When it comes to the conversion of competences to the success and the efficiency in the classroom, necessity of benefiting from curriculums in the teaching process and integrating these curriculums with the education system becomes clear. If a well prepared curriculum in terms of its theoretical features is not integrated properly with the education system, it will not be possible to talk about the success and the quality of the curriculum, and, hence, success of the student.

Meanwhile, both Western counties and local teachers and teacher candidates also emphasize that the literacy of science and technology is an important part of teacher qualities [16, 17, 18, 19]. Considering science and technology reigning over modern societies, it is not possible to think teachers without the literacy of science and technology. Because, a teacher who is a science and technology literate, will naturally have qualities like realizing effective learning-teaching, establishing effective communication, providing efficiency and effective performance and experiencing more quality life. Teachers are required to reach to the standards of members of profession carrying these features.

When the related literature is reviewed, to be able to consider people literate in a space, they are expected to have awareness about some terms, and, even if it's on the basic level, some information about the space [20, 21, 22, 23, 24, 25]. While Shamos [21] is describing functional literate of science in a way someone writing, reading, understanding scientific terms, and discussing them in scientific articles, Bybee [22] describes functional literate of science as someone who knows the relating terms, but lacks in integrating these terms in appropriate subjects, that is, someone memorizing these terms. Reaching conceptual and methodological literacy of science and skill of understanding and use of laboratory findings and discussions about scientific experiments depends on the knowledge of relating terms [26, 27].

Moreover, growing individuals who are literate of technology is one of the main aims of curriculums in many countries and, growing these individuals relies on growing teachers [16]. To reach this aim, teachers should have the necessary level of literacy of science and technology and they should be able to implement their information combining with the field information and the pedagogical knowledge they have [28, 29, 30, 31, 32]. Four (4) out of Seven (7) profession competence variables of a teacher are pedagogical knowledge, pedagogic term knowledge, and technological pedagogic term knowledge [29, 33]. This understanding emphasizes the importance of pedagogics and pedagogic term knowledge in terms of teacher's career. Individuals grown by teachers having and being able to use the pedagogic field and the pedagogic term knowledge in an effective way, will be one of the indicators of an education system carrying students to higher levels in international exams like TIMSS, PISA and PIRLS. Shulman [52] identified taxonomy of seven types of teacher knowledge: (1) Content knowledge, (2) General pedagogical knowledge, (3) Curriculum knowledge, (4) Pedagogical content knowledge, (5) Knowledge of learners and their characteristics, (6) Knowledge of educational contexts (sociology of groups, institutional functioning, characters of communities and cultures and, (7) Knowledge of educational ends, purposes and values and their philosophical and historical grounds. As identified above, content knowledge, general pedagogical knowledge, curriculum knowledge and pedagogical content knowledge are substantial elements for teaching profession. Teachers, who possess those qualities, will significantly contribute to teacher knowledge in the matter of knowing their students, implementation of teaching and learning operations. In order to do that curriculum term awareness is the key factor.

In order to enable teachers to be professional teachers, it's important that they should have term awareness. Term awareness is a crucial pedagogical content knowledge for teachers to perform teaching in their field with the aim of organizing, controlling and evaluating. Hence, Mason [53], in his study about mathematics education, explained that teachers who is acquainted with technical terms on their fields and have a higher level of awareness to those terms may establish a connection with their students and clarify by making students focus the subject easily. Penrod and Douglas [54] stated that understanding the language and terminology of information technology is one of the information technology literacy skills. This situation leads us the conclusion that literacy such as computer, science and technology, information and communication technologies and technology literacy substantially base on the individuals' awareness on technological terms (terminology). As seen above, Penrod and Douglas mentioned that understanding a field or being accepted as a literate on that specific field requires term awareness. In order to be a professional teacher, teachers should be literate on their own fields and have a high level of awareness.

From the perspective of profession of teaching, to be able to bring in teaching and learning skills, give effective

guidance to students, design pedagogic and creative education activities, qualities like pedagogics knowledge, pedagogic term knowledge, pedagogic term knowledge of education technologies and awareness carry an important place. In order teachers to use curriculum in teaching activities and to create an educational environment while using them and be more successful at education and training works, information and awareness of curriculum terms needs to be in a significant level. Because, awareness concept regards recognition, to be known and to be remembered as it's basic. Awareness means attention and remembrance. And again awareness is the ability to have thinking skill. Teachers' competence of information and awareness of curriculum terms is an important pedagogic term knowledge for them to carry out teaching profession in a better way. There is no doubt that awareness of terms used in the education and training process by teachers will benefit both teachers themselves and development of their students greatly.

In the literature, there are studies of the literacy of science, [16, 20, 21, 22, 23, 27, 34, 35], but there are limited studies [36, 52, 53, 54] regarding the awareness of terms relating technology. However, no research is encountered that's aiming to determine knowledge and awareness of curriculum terms. Moreover, when the literature is reviewed, no reliable, valid and sufficient measuring tool could be found to measure teachers' knowledge and awareness of curriculum terms and curriculum development process. With this research, a measuring tool is developed both to meet the basic needs to carry out this research, and fill an important gap in this field. Having developed this measuring tool, important data regarding teachers' knowledge and awareness of curriculum terms and curriculum development process will be brought into the literature. According to this, aim of the research is to determine teachers' knowledge and awareness of curriculum terms and curriculum development process. In doing so, developing a reliable, valid and sufficient measuring tool to determine the awareness of curriculum terms is one of the aims of this research.

As a part of this study, teachers' knowledge and awareness of curriculum terms and curriculum development process are answered in the light of questions below.

1. Is there any significant difference regarding their educational status?
2. Is there any significant difference regarding their professional seniority?
3. Is there any significant difference regarding their branches?
4. Is there any significant difference regarding working institution?
5. Is there any significant difference regarding educational level or institutions they work?

2. Method

2.1. Research Model

This study aims to determine teachers', working for Ministry of National Education (MEB), knowledge and awareness of curriculum terms with the model. Survey model studies try to describe the interaction between situations while keeping the relationship of current events with previous events and conditions in mind. Thanks to this, it is provided to understand and group and describe the relationship between them [35, 37, 38, 39 (p. 233), 40, 50]. In the survey model, it is aimed to observe, note and define the relationship between events of science, and reach to generalizations over controlled unchanging relationships. Hence, science's descriptive function is at the forefront [41] (p. 67). As it can be seen, in these types of research models, subject in the question needs to be fully and carefully observed, defined, described and interpreted as much as possible. With this respect, this study is in the model of survey.

2.2. Universe and Sample

This study is carried out, in 2014-2015 education and training year, with the participation of teachers working in various education levels and schools in the city center of Isparta. Teachers in Isparta city center concluded the space of the work. When the study's sample created, keeping easy sampling at the focus, approximately 10% of 6.000 teachers working in the city center was selected, and to reach this number various first, second and high school allowing easy access was determined. Data collection tool is applied to teachers in these previously selected schools, and surveys answered by 602 teachers are evaluated. These 602 teachers concluded the sample of the study. Information regarding the personal qualities of these teachers who completed data collection tool is provided below. Of these teachers;

- 291 of them are female, and 311 of them are male.
- 506 of them have undergraduate and 96 of them have master degree.
- 138 of them are working at primary schools, 122 at secondary schools and 342 at high schools.
- 80 of them have 1-10, 259 have 11-20, 213 have 21-30 and 50 have 31 years or above profession seniority.
- 122 of them are class, 121 are math-science group, 226 are social sciences, 40 are special talent and 93 are vocational courses field teachers.

2.3. Data Collection Tool

In this study, Knowledge and Awareness of Curriculum Terms Survey (KACTS) is used as data collection tool. This survey consists of two parts and it was developed by the researcher in order to define knowledge and awareness of curriculum terms. During the process of survey development, firstly, regarding literature is reviewed. Among these studies; these [2, 4, 6, 12, 13, 47, 48, 49] sources are reviewed to define the most well-known and used curriculum and curriculum development process terms for the data collection tool. Defined terms are listed, and then grouped while taking the stages of curriculum development process into consideration. In the classification, terms are evaluated under

categories of “Curriculum Basic Terms”, “Planning and Organisation”, “Preparing Draft Curriculum” and “Curriculum Test and Evaluation”. Then, field experts are asked for their opinions, and it is concluded that terms in the field are sufficient and they can be classified under the same categories. Categorically defined terms are asked to 96 teachers, accordingly with their answers, terms having frequency of 10 and more are decided to have a place in the data collection tool. Furthermore, finally, by using the first 20 terms which have more frequency than others, with open-edged questions relating to these terms, it is tried to define the level of concepts in the survey. As a result of all these processes, terms that will take a place in (KACTS) are decided.

The first part of the (KACTS), which is developed for this study and consists of two parts, is made up of questions to determine education level, gender, professional seniority of teachers, institutions they work and their personal qualities regarding their field. The second part consists of terms under four basic categories and aims to define knowledge and awareness of curriculum terms.

Developed KACTS is a nominal scale. There are certain categories in nominal scales. In this scale, there are two basic categories. These categories are in a way, if teacher recognizes, knows or can describe the term, then it is “yes”, if he/she doesn’t know, recognize or can’t describe then it is “no”. According to this, teachers answering the survey are requested to mark terms they recognize and know most and terms they can describe. Terms marked by teachers are entered to statistics software as “yes” (1) and “no” (0) to calculate the frequency of these terms. Then, from the terms under the four basic categories, constant variables are obtained.

Because survey is a nominal scale and every unit is displayed with a number, in these types of scales, it is not possible to make a reliability analysis and to define a reliability coefficient regarding the survey. However, in this study, in order to define the reliability of survey and considering the difficulty of executing x-square technique in term awareness for every one of various terms in the data analysis, survey reliability is calculated through sub-dimension data of scale. KR-21 reliability coefficient provided by these calculations is 0.96 (for sub-dimensions; 0.94 for curriculum basic terms, 0.84 for planning and organization, 0.96 for Preparing Draft Curriculum, 0.92 for curriculum test and evaluation). Acquired reliability coefficient, shows that data collection tool has a high level of internal consistency. This situation is accepted as a proof of data collection tool’s reliability. Moreover, providing the survey is a reliable data collection tool, strengthens the assumption of having a high level validity.

In order to provide content validity of data collection tool, on the other hand, experts in the field of curriculum development process are asked to make survey and it is tried to provide survey validity. Keeping the understanding which claims a scale is supposed to have content validity in mind, a scale with content validity, regarding its reliability, is accepted to be able to provide a reliability coefficient [42, 43, 44, 51]. In the light of this understanding, data collection tool is assumed to be a reliable one. Hence, survey can be accepted as a valid and reliable data collection tool. Terms taking place in KACTS are in the Table 1. The first part of the KACTS, which is developed for this study and consists of two parts, is made up of questions to determine education level, gender, professional seniority of teachers, institutions they work and their personal qualities regarding their field. The second part consists of terms under four basic categories and aims to define knowledge and awareness of curriculum terms.

2.4. Data Collection and Analysis

KACTS data collection tool used in this study is a categorical classification (non-parametrical) data collection scale. Data acquired through the survey, were entered as categorical data and analyzed. Firstly, through the categorical data, percentages of all terms are calculated and these terms sorted descending from the one which has the highest percentage. Then, depending on terms forming bottom parts of the survey, terms are sorted accordingly with their frequency percentages and term awareness was attempted to be analyzed by calculating percentages of terms. Lastly, from categorical data entered to statistical data analysis software, statistical analysis was done depending quantitative variables acquired in respect to frequency of terms placed in the sub-dimensions of the scale. In this analysis, firstly, using the mean of terms relating to the sub-dimensions of the survey, awareness for every sub-dimension term was tried to be defined. Later, in order to define the awareness for terms relating to the sub-dimensions of the survey, in respect to gender, field (branch), level of teaching, working institution and professional seniority variables, term awareness was analyzed by using statistical analysis techniques like mean, standard deviation, t-test and ANOVA (analysis of variance).

3. Findings

In this chapter, findings obtained through the analysis of statistical data collected according to aims of the research will be put forward. Findings, aiming at the survey overall, are analyzed in accordance with the sub-dimensions of the survey via research questions. Acquired findings are put forth and interpreted in the form of tables.

3.1. Findings of Terms in the Curriculum Terms Awareness Survey

“Yes” answers of teachers, in respect to their recognition, understanding and definition of these terms, and percentages of these answers, considering the sub-dimensions of the scale, are sorted starting from the highest to the lowest in the Table 1. In addition to this, average total score regarding the awareness of teachers in dimensions of “Curriculum Basic

Terms", "Planning and Organization", "Preparing Draft Curriculum" and "Curriculum Test and Evaluation", depending on the sub-dimensions of the scale, are shown in the Table 2.

Table 1. Terms in the Curriculum Terms Awareness Knowledge Survey and Their Percentages

Curriculum Basic Terms Dimension and Frequency Percentages (%)			
Educational Curriculum	90	Supporting Practitioners	41,5
Course Curriculum	89,5	Social basis	40,7
Training Curriculum	87,4	Philosophical basis	37,9
Applicability	74,3	Course design	37,7
Functionality	70,6	Humanistic design	35,9
Curriculum Development	70,3	Progressivism	35,5
Curriculum Development Models	70,3	Prennialism	34,2
Flexibility	65,1	Process design	34,2
Reliance to MEB tools	61,1	Re-constructionism	31,2
Child-based design	55.5	Uniformity and generality	28,6
Psychological basis	53,3	Essentialism	27,7
Experience-based	51,3	Inter-discipline design	27,6
Course design	51,3	Discipline design	25,9
Individual basis	44,7	Extensive design	18,9
Historical basis	44,7	Implicit curriculum	18,9
Subject basis	41,5	Core design	12,8
Financial basis	41,5		
Planning and Coordination Dimension Terms and Frequency Percentages (%)			
Survey Technique	78,7	Planning coordination commission	47,8
Test Technique	76,4	Analytical approach	45,8
Observation Technique	75,4	Curriculum work commission	44,0
Interview Technique	68,8	PERT intermeshing	43,5
Necessity analysis	65,9	Differences approach	36,7
Democratic analysis	63,3	Descriptive approach	36,4
Literature review	60,3	Curriculum advisory commission	31,2
Profession analysis	52,3	Progel (Dacum) Technique	33,2
Work analysis	48,2	Operation Time Chart	27,7
Preparing Draft Curriculum Dimension Terms and Frequency Percentages (%)			
Objective	93,7	Education philosophy	71,3
Aim	93,2	Teaching-learning process	71,3
Acquisition	91,0	Participation	69,1
Course plan	90,0	Curriculum elements	67,9
Method	86,2	Theme	66,9
Technique	85,0	Learning experiences	65,0
Content	84,7	Strategy/approach	64,8
Learning tools	84,2	Concept map	64,8
Chaptered Yearly Plan	83,6	Learning model	60,2
Evaluation	81,2	Learning theory	60,0
Education psychology	79,9	Education Finance	58,0
Education level	78,7	Tips	53,0
Behaviour	78,7	Content regulation	49,7
Reinforcement	78,1	Table of specifications	44,9
Chapter	77,1	Modular programming	37,2
Feedback	76,7	Experience cone	31,7
Scaling tools	75,2	Spiral programming	30,9
Learning strategies	72,3	Subject network project central Prog.	19,9
Subject area	71,9	Pyramidal programming	19,3
Education sociology	71,5	Core programming	19,3
Learning styles	71,4		
Curriculum Test and Evaluation Dimension Terms and Frequency Percentages (%)			
Performance evaluation	67,9	Evaluation through aim	49,8
Self- evaluation	66,4	Evaluation through learning	48,7
Curriculum evaluation	65,4	Evaluation of valuation	48,0
Development file	63,3	Recognition Evaluation	41,9
Field test	59,1	Evaluation through product	38,7
Curriculum Testing	58,3	Evaluation through environment	37,9
Grading Scale	58,1	Evaluation through curriculum elem.	37,4
Peer Evaluation	57,8	Formalization Evaluation	35,2
Evaluation through success	56,1	Evaluation through attainment	31,2
Evaluation through concept map	55,6	Structured Grid	19,1
Pilot Evaluation	54,5	DBT (Diagnosed Branched Tree)	15,3

Table 2. Average Total Score Regarding the Terms Awareness related to Every Dimensions

Terms	n	X	SS	Minimum	Maximum
Curriculum basic terms	602	16.35	8.68	0	33
Planning and organization	602	10.12	4.44	0	19
Preparing draft curriculum	602	27.75	10.89	0	42
Curriculum test and evaluation	602	11.59	6.39	0	22
General	602	66.51	27.46	0	116

According to the Table 1, terms under four categories are sorted depending on their percentages. Under basic terms category, while there are significant awareness in terms like "education curriculum, training curriculum and course curriculum", awareness for education curriculum design terms is between 10 to 20%. In planning and coordination category, "survey method" term has the highest awareness with 78,7%, while "operation time chart" has the lowest awareness with 27,7%. It can be seen that teachers have a higher level of awareness for terms under "Preparing Draft Curriculum" category. Because, "Objective, aim, acquisition and course plan" terms showed the highest awareness level (90% and above). Meanwhile, under curriculum test and evaluation category, "Performance Evaluation" term gets the highest awareness level with 67,9%, and "DBT (Diagnosed Branched Tree)" has the lowest awareness level with 15,3%. When frequency percentages are taken into consideration, terms that teachers showed the lowest awareness, are in "Curriculum Test and Evaluation" category.

According to Table 2, the highest level of teacher awareness for terms belongs to "preparing draft curriculum" dimension, while the lowest belongs to "planning and organization" dimension. "Curriculum basic terms" and "curriculum test and evaluation" dimensions have higher means compared to half of the maximum limit. Also, mean for answers related to the awareness of all terms in the survey is 66,51. In a survey which is supposed to have a maximum mean of 116, means being higher than half of the maximum limit tells us the level of knowledge of teachers' term awareness is at medium level.

For sub-dimensions of the survey, results telling term awareness differs significantly, depending on variables of gender, education level, field, professional seniority and education grade and working institution, are obtained. In respect to these results, for sub-dimensions of the survey, level of awareness and knowledge of terms for female teachers differs significantly in dimensions of "Preparing Draft Curriculum" and "Curriculum Test and Evaluation". Regarding the education level variable, in "Educational curriculum basic terms" dimension, teachers with master's degree have higher level of awareness and knowledge of terms. Regarding teachers' professional seniority, in the every dimension of the survey, results are significantly in favour of teachers with lower professional seniority years. When it comes to education grade and working institutions, in "Education curriculum basic terms" dimension, results are in favour of teachers working at secondary schools, meanwhile in "Preparing Draft Curriculum" dimension, they are in favour of primary school teachers. In "Curriculum test and evaluation" dimension, for the overall of the survey, results are significantly in favour of first and secondary school teachers against high school teachers. These results are in favour of primary school teachers compared to those of other institutions, and secondary school teachers compared to those of high schools at having higher level of term awareness. Terms awareness, for the overall of the survey, is significantly in favour of teachers with lower professional seniorities when level of professional seniority compared. In the every dimension of the survey, term awareness increases when teachers' seniority lowers and when their seniority increases, term awareness drops.

3.2. The Findings Related to Gender Variable

According to the variable of gender, to detect if there is any statistically significant difference between the awareness of the teachers for every dimension and the overall of the scale, T-test is implemented for the independent samples, and the results are listed in Table 3.

Table 3. T-test Results of the Significant Difference Between the Sub-dimensions Terms Awareness of the Teachers According to Their Gender

Dimensions	Gender	n	X	SS	Sd	t	p
Educational Curriculum Basic Terms	Female	291	15.38	8.51	600	.085	.932
	Male	311	15.32	8.85			
Planning and Organization	Female	291	9.34	4.48	600	1.144	.253
	Male	311	8.92	4.39			
Preparing Draft Curriculum	Female	291	28.86	10.19	600	2.431	.015*
	Male	311	26.72	11.42			
Curriculum Test and Evaluation	Female	291	11.15	6.21	600	2.084	.038*
	Male	311	10.07	6.51			
General	Female	291	64.73	26.40	600	1.683	.093
	Male	311	60.98	28.35			

Table 4. The Variance Analyze Results of Relations between the Terms Awareness for Every Sub-dimensions According to the Branch Variance.

Dimensions	Source of Variance	Sum of Squares	Sd	Mean of Squares	F	p	Significant Difference*
Educational Curriculum Basic Terms	Between Groups	148.063	4	37.016	.490	.743	
	Within Groups	45139.573	597	75.611			
	Total	45287.636	601				
Planning and Organisation	Between Groups	92.365	4	23.091	1.174	.321	
	Within Groups	11740.538	597	19.666			
	Total	11832.904	601				
Preparing Draft Curriculum	Between Groups	1445.163	4	361.291	3.090	.016*	1>5
	Within Groups	69792.958	597	116.906			
	Total	71238.121	601				
Curriculum Test and Evaluation	Between Groups	930.360	4	232.590	5.890	.000*	1>5 1>2
	Within Groups	23574.931	597	39.489			
	Total	24505.291	601				
General	Between Groups	6494.434	4	1623.608	2.169	.071	
	Within Groups	446816.6	597	748.437			
	Total	453311.0	601				

*(1) Classroom, (2) Mathematics-Science, (3) Social sciences, (4) Special talent, (5) Vocational Courses

When Table 3 is analyzed, it's seen that the awareness of female and male teachers about the educational curriculum terms shows significant difference at [t(600)]=2,431; p<0,05 significance level in "Preparing Draft Curriculum" , and at [t(600)]=2,084; p<0,05 significance level in "Curriculum Test and Evaluation". That means, according to the dimensions of "Preparing Draft Curriculum" and "Curriculum Test and Evaluation", the awareness of the female teachers about the curriculum terms is significantly high from the male teachers.

3.3. Findings Related to Branch Variable

To depict the terms awareness of teachers according to branch variable, one-way analysis of variance (ANOVA) is implemented detecting if the difference between the average values of sub-dimensions of the scale are statistically significant, and the results are shown in Table 4.

According to Table 4, statistically significant difference is detected between the awareness of curriculum terms of teachers from different branches in the dimensions of "Curriculum Test and Evaluation" and "Preparing Draft

Curriculum"($p<0,05$). To detect in which groups the difference is, multiple-comparison (Post Hoc) tests are implemented such as Tamhane T2 in the dimension of "Preparing Draft Curriculum" in which the variances are not homogeneous, Scheffe in the dimension of "Curriculum Test and Evaluation" in which the variances are homogeneous. In the light of this, in the dimension of "Preparing Draft Curriculum", a significant difference is seen between the teachers in the branch of classroom and the teachers in the branch of vocational courses in favour of classroom teachers. In the dimension of "Curriculum Test and Evaluation", a significant difference is seen between the teachers in the branch of classroom and the teachers in the branches of vocational courses and mathematics-science in favour of the teachers in the branch of classroom.

3.4. Findings Related to Educational Status Variable

T-test is implemented for independent samples, to find if there is any statistically significant difference between the awareness of teachers according to every dimension and the overall scale for the variable of teachers' educational status, and the results are shown in Table 5.

According to Table 5, for the variable of Educational Status, the awareness of teachers from the perspective of curriculum terms differs only in the dimension of "Educational Curriculum Basic Terms" [$t(600)$]=-2,263; $p<0,05$. Hence, the awareness of master's degree teachers in the aspect of curriculum terms is significantly higher than bachelor degree teachers. For the overall and other dimensions of the scale, even though awareness of master degree teachers in the aspect of curriculum terms is higher than bachelor degree teachers, there is no significant difference.

3.5. Findings for the Variable of Working Institution

For defining the terms awareness of the teachers, according to the variables of "Working Institution" and "Educational Level", one-way variance analyze (ANOVA) is implemented to detect if the difference between averages of every dimension are statistically significant. The achieved findings are shown in Table 6.

According to Table 6, between the awareness of teachers, working at different education institutes and in different levels, in the aspect of educational curriculum terms, statistically significant difference is achieved for the overall scale and every dimension of scale except "Planning and Organisation"($p<0,05$). For determining in which groups the difference is, the multiple comparison (Post Hoc) tests are implemented such as Scheffe, in "Educational Curriculum Basic Terms" in which the variances are homogeneous and the overall of the scale, but Tamhane T2 for the other dimensions in which the variances are not homogeneous. Hence, in the dimension of "Educational Curriculum Basic Terms", a significant difference is achieved between the teachers working at secondary schools and high schools in favour of the teachers working at secondary schools; In the dimension of "Preparing Draft Curriculum" a significant difference is achieved between the teachers working at primary schools and high schools in favour of the teachers working at primary schools; In the dimension of "Curriculum Test and Evaluation" and the overall of survey, a significant difference is achieved between the teachers working at primary schools and secondary school and the ones working at high schools in favour of the teachers working at primary schools and secondary schools.

3.6. Findings Related to Professional Seniority Variable

For determining teachers' terms awareness with respect to the "Professional Seniority" variable, one-way variance analyze (ANOVA) is implemented to detect if the difference between arithmetic means related to every dimension is statistically significant. The findings are shown in Table 7.

Table 5. The results of T-test related to Significant Difference between Term Awareness from the Perspective of Sub-dimensions According to Educational Status Variable.

Dimensions	Educational Status	n	X	SS	Sd	t	p
Educational Curriculum Basic Terms	Bachelor	506	14.97	8.41	600	-2.263	.025*
	Master	96	17.39	9.80			
Planning and Organisation	Bachelor	506	8.99	4.25	600	-1.433	.097
	Master	96	9.81	5.30			
Preparing Draft Curriculum	Bachelor	506	27.43	10.88	600	-1.667	.097
	Master	96	29.45	10.83			
Curriculum Test and Evaluation	Bachelor	506	10.44	6.21	600	-1.216	.226
	Master	96	11.40	7.20			
General	Bachelor	506	61.80	26.70	600	-1.858	.066
	Master	96	89.04	30.82			

Table 6. The Variance Analyze Results of Significant Difference between the Terms Awareness for every Sub-dimensions According to "Working Institution" Variable.

Dimensions	The Source Of Variance	Sum of Squares	Sd	Mean of Squares	F	p	Significant Difference*
Educational Curriculum Basic Terms	Between Groups	865.881	2	432.941	5.838	.003*	2>3
	Within Groups	44421.755	599	74.160			
	Total	45287.636	601				
Planning and Organisation	Between Groups	42.650	2	21.325	1.083	.339	
	Within Groups	11790.254	599	19.683			
	Total	11832.904	601				
Preparing Draft Curriculum	Between Groups	1477.832	2	738.916	6.345	.002*	1>3
	Within Groups	69760.289	599	116.461			
	Total	71238.121	601				
Curriculum Test and Evaluation	Between Groups	766.457	2	328.229	9.670	.000*	1>3 2>3
	Within Groups	23738.833	599	39.631			
	Total	24505.291	601				
General	Between Groups	9072.711	2	4536.355	6.117	.002*	1>3 2>3
	Within Groups	444238.3	599	741.633			
	Total	453311.0	601				

*(1) Primary school, (2) Secondary School, (3) High School

Table 7. The Variance Analyze Results Related to Significant Difference between Terms Awareness According to Every Sub Dimension with respect to Professional Seniority Variable.

Dimensions	Source of Variance	Sum of Squares	Sd	Mean of Squares	F	p	Significant Difference*
Educational Curriculum Basic Terms	Between Groups	1561.560	3	520.520	7.119	.000	1>2 1>4 3>4
	Within Groups	43726.076	598	73.121			
	Total	45287.636	601				
Planning and Organization	Between Groups	371.801	3	123.934	6.466	.000	1>4 2>3 3>4
	Within Groups	11461.103	598	19.166			
	Total	11832.904	601				
Preparing Draft Curriculum	Between Groups	2719.626	3	906.542	7.912	.000	1>4 2>4 3>4
	Within Groups	68518.495	598	114.579			
	Total	71238.121	601				
Curriculum Test and Evaluation	Between Groups	865.985	3	288.662	7.302	.000	1>4 1>2 2>3 3>4
	Within Groups	23639.306	598	39.531			
	Total	24505.291	601				
General	Between Groups	18198.353	3	6066.118	8.337	.000	1>4 2>4 3>4
	Within Groups	435112.7	598	727.613			
	Total	453311.0	601				

*(1) 1-10 years, (2) 11-20 years, (3) 21-30 years, (4) 30 years and over

According to Table 7, statistically significant difference is detected between every dimension and the overall of survey, between the awareness of teachers, who have different professional seniority, related to curriculum terms ($p<0,05$).

For determining in which groups the difference is, multiple comparison (Post Hoc) tests are implemented such as; Scheffe in the first dimension in which the variances are homogeneous and, Tamhane T2 in the other dimensions in which the variances are not homogeneous. Hence, in the dimension of "Educational Curriculum Basic Terms", a significant difference is achieved between teachers who have professional seniorities between 1-10 years and 21-30 years and teachers who have professional seniorities of 31 years and over, in favour of teachers who have professional seniorities between 1-10 years and 21-30 years; and a significant difference is achieved between teachers who have professional seniorities between 1-10 years and teachers who have professional seniorities between 11-20 years, in favour of teachers who have professional seniorities between 1-10 years. In the dimension of "Planning and Organization", a significant difference is achieved between teachers who have professional seniorities between 1-10 years and 21-30 years and teachers who have professional seniorities of 31 years and over, in favour of teachers who have professional seniorities between 1-10 years and 21-30 years; and a significant difference is achieved between teachers who have professional seniorities between 21-30 years and teachers who have professional seniorities between 11-20 years, in favour of teachers who have professional seniorities between 21-30 years. In the dimension of "Preparing Draft Curriculum", a significant difference is achieved between teachers who have professional seniorities between 1-10 years, 11-20 years and 21-30 years and teachers who have professional seniorities of 31 years and over, in favour of teachers who have professional seniorities between 1-10 years, 11-20 years and 21-30 years. In the dimension of "Curriculum Test and Evaluation", a significant difference is achieved between teachers who have professional seniorities between 1-10 years and 21-30 years and teachers who have professional seniorities of 31 years and over, in favour of teachers who have professional seniorities between 1-10 years and 21-30 years; and a significant difference is achieved between teachers who have professional seniorities between 1-10 years and teachers who have professional seniorities between 11-20 years, in favour of teachers who have professional seniorities between 1-10 years; and a significant difference is achieved between teachers who have professional seniorities between 11-20 years and teachers who have professional seniorities between 21-30 years, in favor of teachers who have professional seniorities between 11-20 years. For the overall of the survey, a significant difference is achieved between teachers who have professional seniorities between 1-10 years, 11-20 years and 21-30 years and teachers who have professional seniorities of 31 years and over, in favour of teachers who have professional seniorities between 1-10 years, 11-20 years and 21-30 years. According to these results, it can be said that when the professional seniorities of teachers increase, the awareness of teachers related to curriculum terms decreases.

4. Discussion, Conclusions and Recommendations

According to the research variables, the result has been achieved that teachers have terms awareness with respect to educational curriculum terms awareness and knowledge level, related to the overall of and sub dimensions of survey. These results (Table 1) can be explained by high percentage of terms in survey. In addition, it's seen that they have awareness of 50% and over, to the 60% (69) of terms in the survey. These results show that teachers have a significant awareness (66.51%) related to terms in the educational curriculum and curriculum development processes. It's seen that the dimension which has the highest average is "Preparing Draft Curriculum" (27.75; maximum 42) and the dimension which has the lowest average is "Planning and Organization" (10.12; maximum 19) related to every dimension of survey according to the descriptive statistics regarding to survey. All of these results show that the arithmetic means of sub dimensions of survey are more than the half of the maximum means (maximum 116, 66.51). According to the sub dimensions of survey, it's seen that teachers have terms awareness related to the terms of educational curriculum and curriculum development processes and, this awareness is much regarding to the "Preparing Draft Curriculum" dimension. The reason why teachers' terms awareness is high related to this dimension, might be because of the terms regarding to this dimension (curriculum, plan, subject area, unit, lesson plan, lesson plan with units, method, technique, clue, feedback, correction, teaching tools and equipment, teaching strategies, teaching stiles etc.) are that these terms are frequently faced during practice. And the reason why the terms awareness of the terms related to dimension of "Planning and Organization" is so low, could be thought that because of the terms related to this dimension are highly about the planning of "Curriculum Development" process, teachers are far from these terms regarding to this dimension and they forget these terms because they aren't faced with them in practice. The opinion of that teachers' professional competence variables are pedagogical knowledge, pedagogical terms knowledge, technological pedagogic knowledge and technological pedagogic terms knowledge [29, 33] is so important because, it's seen that pedagogy and pedagogical terms knowledge are very important for the profession and career of a teacher. According to the findings reached from the research, it could be thought that the teachers' medium-level terms awareness knowledge doesn't contribute enough to their professional quality and effective environmental design regarding to learning-teaching activities for achieving permanent learning.

According to the gender variable and for the "Preparing Draft Curriculum" and "Curriculum Test and Evaluation" sub dimensions of survey, there is a significant awareness in favour of female teachers, but a significant difference couldn't achieved between the terms awareness of all teachers (Table3). However, terms awareness related to the overall survey found high in favour of female teachers. This awareness that isn't significant for other dimensions but significant in the dimensions of "Preparing Draft Curriculum" and "Curriculum Test and Evaluation" in favour of female teachers might be because of female teachers more love their profession, pay more attention to practice, more supporting their children's learning and they are more faced with these terms.

A significant difference is detected between the curriculum terms awareness of teachers in the dimensions of "Preparing Draft Curriculum" and "Curriculum Test and Evaluations (Table 4). This difference is in favour of classroom branch teachers between classroom branch teachers and vocational lessons branch teachers in "Preparing Draft Curriculum" dimension. And in the dimension of "Program Test and Evaluation" this difference is achieved in favour of classroom branch teachers when compared to vocational lessons branch and mathematics-science branch teachers. These results show that classroom branch teachers have higher level of terms awareness for the areas of educational curriculum and curriculum development. The reason of why this awareness is in favour of classroom teachers might be that these teachers give lessons from various branches related to many areas (Turkish Teaching, Mathematics Teaching, Science Teaching, Life Science Teaching, Art Teaching, Music Teaching etc.). The relation between these terms and the terms related to special education might be effective on the occurring of significant difference. Regarding the variable of "Education Level", for every dimension and the overall of survey, the terms awareness between teachers differs statistically only in "Educational Curriculum Basic Terms" dimension, in favour of master degree graduate teachers (Table 5). For the overall of survey and other dimensions, the awareness of teachers who are master degree graduate is higher than the awareness of bachelor's degree graduate teachers, but this doesn't generate any significant difference. The reason of occurring a significant difference in "Educational Curriculum Basic Terms" dimension might be that master degree graduate teachers are more outstanding teachers and more cognitively advanced persons, that their studies at master degree education are based and focused on terms and that they know much terms about their study areas at master degree education. This result supports the thought of Chiero [45, 46] that; "teachers who focused on terms, positively contributes to students' terms awareness", too.

A significant difference is achieved between the awareness of teachers, working at different institutes and different seniorities, related to the educational curriculum terms for all of the dimensions except "Planning and Organization" and the overall of survey (Table 6). Between teachers working at secondary school and teachers working at high school, these differences are found in favour of teachers working at secondary school in "Educational Curriculum Basic Terms" dimension and; between teachers working at first school and teachers working at high school, found in favour of teachers working at first school, in "Preparing Draft Curriculum" dimension. In "Curriculum Test and Evaluation" dimension, a significant difference is achieved between teachers working at first schools and secondary schools and teachers working at high schools, in favour of teachers working at first schools and secondary schools, for the overall of survey. These results show that the terms awareness of teachers working at first schools are higher than the teachers working at other institutes and, the terms awareness of teachers working at secondary schools are higher than teachers working at high schools. It's seen that when the level of school increases, the terms awareness decreases. The reason that the terms awareness of teachers working at first schools is higher than teachers working at other institutes might be that there are many lessons of them involving teaching content at field training and, the terms of lessons involving teaching content have relations with educational curriculum terms.

Another result achieved from the research is, that the terms awareness of teachers who have different professional seniorities is significance for every dimension and the overall of survey (Table 7). According to this, a significant difference is achieved for teachers' professional seniorities for every dimension of survey. Regarding the findings obtained, a significant difference is achieved in favour of teachers who have less professional seniorities for the overall survey. For every dimensions of survey; when teachers' professional seniorities decrease, the terms awareness increases and when teachers' professional seniorities increase, the terms awareness decreases. A significant difference occurs between teachers who have 11-20 years of professional seniorities and 21-30 years of professional seniorities, in favor of teachers who have 21-30 years of professional seniorities for only "Planning and Organization" dimension. According to these results, it could be said that when the professional seniorities of teachers increase, their curriculum terms awareness decreases. The reason of why this awareness is in favor of teachers who are young and have less professional seniorities might be, that the teachers' assignment have been made according to Public Personnel Selection Examination (KPSS), in which educational sciences branch is important, since fifteen years and, that in these examinations the percentage of curriculum development area subjects are 20%, and this might lead teachers' terms awareness being at a higher level, regarding to recognition, understanding and explaining these terms in that area.

According to results achieved from the research, firstly, for the overall of survey, it is shown that 50% and more of teachers said "yes" to 60% (69) of terms, regarding to

educational curriculum terms awareness and knowledge in the direction of terms in the survey. These results show that teachers have a significant awareness (66.51%) of terms of educational curriculum and curriculum development processes. As a consequence, results, telling that teachers have medium level of educational curriculum term awareness and knowledge, female teachers have higher levels of term awareness compared to male teachers, term awareness increases in a correlation with education level, teachers working at primary schools have higher term awareness when education grade and working institution taken into consideration and term awareness decreases while professional seniority increases, are achieved.

In the light of these results, some suggestions can be made. Firstly, in order to grow teachers' term awareness and knowledge of educational curriculums and educational curriculum development field, "Curriculum Development" course in the initial teacher training should be enforced. Again, there should be more questions about the same course in the Public Personnel Selection Examination (KPSS). In "Professional Working Seminar" programs done by Ministry of National Education between the dates of (generally 15th-30th of June), after schools' went to holiday, initial teacher training subjects and reformations in educational curriculums ought to be made. In-service training programs for educational curriculums and curriculum development process should be organized to increase the level of teachers' awareness and knowledge of educational curriculums. Also, granting various awards to teachers attending to these kinds of programs will be appropriate.

REFERENCES

[1] Öztürk, N., Demir, R. & Dökme, İ. (2011). Fen bilgisi öğretmenliği öğrencilerinin eğitimde teknoloji kullanımına ilişkin tutumları ve görüşleri. 2nd Inte4rnational Conference On New Trends İn Education And Their Implications (27-29 April), Antalya-Turkey.

[2] Varış, F. (1978). Program geliştirme: teori ve teknikler. Ankara: Ankara Üniversitesi Eğitim Bilimleri Fakültesi Yayınları.

[3] Saylor, J. G., Alexsander, W. M. & Lewis, A. J. (1981). Curriculum planing for better teaching and learning. 4. Ed. New York. Holt, Rinehart & Winston.

[4] Büyükkaragöz, S. S. (1997). Eğitimde program geliştirme. (Genişletilmiş 2. Baskı), Konya: Öz Eğitim Yayınları.

[5] Doğan, H. (1997). Eğitimde program ve öğretim tasarımı. Ankara. Önder Matbaacılık.

[6] Demirel, Ö. (1999).Kuramdan uygulamaya eğitimde program geliştirme. (3. Baskı), Ankara: Pegem A. Yayıncılık.

[7] Çelikten, M. (2003). Okul kültürünün şekillendirilmesinde müdürün rolleri. Türk Eğitim Bilimleri Dergisi, 1(4).

[8] Çelikten, M. (2010a). "Attitudes toward women school administrators in Turkey", Education, 130, 531-540.

[9] Çelikten, M. (2010b). Okul örgütü ve yönetimi, V. Çelik (Ed.), Türk eğitim sistemi ve okul yönetimi (s. 121-140). Ankara: Pegem Akademi

[10] Doll, Ronald C. (1986). Curriculum, improvement: Decision making and mrocess. 6. Ed. Boston: Allynand Bacon, pp,8.

[11] Posner, G. J. (1995). Analyzing the curriculum. 2. Ed. McGraw-Hill,Inc., New York.

[12] Ertürk, S. (1994). Eğitimde program geliştirme. Ankara: Meteksan Yayınları.

[13] Sönmez, V. (2001). Program geliştirme, öğretmen el kitabı. Ankara: Anı Yayıncılık.

[14] Çelikten, M. (2008b). Öğretmenlik mesleğinde yeni model arayışları. Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 19, 189-195.

[15] Şişman, M. (2004). Öğretmenlik mesleğine giriş. (7. Baskı), Ankara: Pegem A Yayıncılık.

[16] Adıgüzel, A. (2005). Avrupa birliğine uyum sürecinde öğretmen niteliklerinde yeni bir boyut: Bilgi okuryazarlığı. Milli Eğitim Dergisi, 33 (167), 53-70. [Çevrim-içi: http://yayim.meb.gov.tr/dergiler/167/orta3-adiguzel.htm] Erişim tarihi: 8 Ocak 2015.

[17] Henderson, M. V. & Scheffler, A. J. (2003). " New literacies, standards and teacher education ", Education. 124; 2, 390-396.

[18] Lawless, K. A. (2003). Becoming Literate in The Technolojical Age. New Tesponsibilities and Tool For Teachers. The Reading Teacher, 570, 7.

[19] Çelikten, M. (2001a). Okul yöneticilerinin problem çözme becerileri. Kuram ve Uygulamada Egitim Yönetimi Dergisi, 7(3), 297-309.

[20] Miller, J. D. (1989). Scientificliteracy. Speech delivered at annual meeting of AAAS, San Francisco, CA.

[21] Shamos, M. (1995). The myth of scientific literacy. New Brunswick, Nj: Rutgers University Press.

[22] Bybee, R. W. (1999). Toward an understanding of scientificLiteracy. (In advancing Standards for science and mathematics education: Views Fromthe Field. The American Association for the Advancement of Science, Washington, DC. [Available online at: http://ehrweb.aaas.org/ehr/forum/bybee.html], Retrieved on October 29, 2015.

[23] Li, H. (1999). "Constructing understandings of scientific literacy: Exploringthe use of reading processes as a potential technique for the creation of an operational definition." Ph. D. Thesis, Athens, Georgia.

[24] Çelikten, M. (2005a). Neden iş analizi yapılmalı? Sosyal Bilimler Enstitüsü Dergisi, 18(1), 127-135.

[25] Çelikten, M. (2006b). Roles of principal in shaping school culture. Education and Science, (31)140, 56-61.

[26] Çepni, S., Ayvacı, H. Ş., & Bacanak, A. (2009). Bilim teknoloji toplum ve sosyal değişim, (4. Baskı). Trabzon: Celepler Matbaacılık.

[27] Işık Terzi, C. (2008). İlköğretim 1. kademe fen ve teknoloji dersini yürüten sınıf öğretmenleri ile 2. kademe fen ve teknoloji dersini yürüten fen bilgisi (fen ve teknoloji) öğretmenlerinin fen okuryazarlık düzeylerinin belirlenmesi ve sonuçların karşılaştırılması. Muğla Üniversitesi Fen Bilimleri Enstitüsü, Muğla. Yayımlanmamış yüksek lisans tezi.

[28] Çelikten, M. (2001c). Etkili okullarda karar süreci. Erciyes Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 11(2), 263-274.

[29] Mishra, P. & Koehler, M. J. (2006). Technological pedagogical content knowledge: A Framework forIntegrating Technology in Teachers' Knowledge. Teachers College Record, 108(6), 1017-1054.

[30] Çelikten, M. (2006a). Roles of principal in shaping school culture. Education and Science (31)140, 56-61.

[31] Koehler, M.J. & Mishra, P. (2008). Introducing TPACK. In AACTE Committee on Innovation & Technology (Eds.). Handbook of Technological Pedagogical Content Knowledge for Educators (pp. 3-29). New York, NY: Routledge. [Available online at: http://punya.educ.msu.edu/publications/journal_articles/mishra-koehler-tcr2006.pdf], Retrieved on March, 30, 2015.

[32] Angeli, C. & Valanides, N. (2005). Preservice elementary teachers as information and communication technology designers: An instructional knowledge. Journal of Computer Assisted Learning, 21(4), pp, 292–302.

[33] Thompson, A. & Mishra, P. (2008). Breaking News: TPCK Becomes TPACK. Journal of Computing in Teacher Education, 24(2), pp. 38–64.

[34] Çelikten, M. (2004c). Bir okul müdürünün günlüğü. Fırat Üniversitesi Sosyal Bilimler Dergisi, 14(1), 123-135.

[35] Çelikten, M. (2005). A Perspective on women principals in Turkey. International Journal of Leadership in Education (8)3, 207-221.

[36] Özsevgeç, T., Batman, D.,Yazar, E. & Yiğit, N. (2014). Determining the technological terms awareness of pre-service teachers. Education and Science. 39 (3), 173, 238-248.

[37] Kaptan, S. (2005). Bilimsel araştırma ve istatistik teknikleri. (11. Baskı), Ankara: Bilim Yayıncılık.

[38] Karasar, N. (2005). Bilimsel araştırma yöntemi. (14.Baskı), Ankara: Nobel Yayıncılık.

[39] Morrison, M. & Scott, D. (2006). Keyideas in educational research. New York: Continium İnternational Publishing Group, (pp, 233).

[40] Bahar, H. H. (2010). Sosyal bilimlerde ve fen bilimlerinde araştırmanın temel özellikleri. R. Y. Kıncal. (Ed.). Bilimsel araştırma

[41] Yıldırım C. (1966). Eğitimde araştırma metotları. Ankara: Akyıldız Matbaası. S.67.

[42] Cohen, L. & Manion, L. (1994). Research methods in education (4th Ed.). London: Routledge.

[43] Çelikten, M. & Çelikten, Y. (2007). Televizyon programlarında çizilen öğrenci, öğretmen ve yönetici profilleri. Sosyal Bilimler Enstitüsü Dergisi, 23(2), 369-378.

[44] Çepni, S. (2009). Araştırma ve proje çalışmalarına giriş (4. Baskı). Trabzon: Celepler Matbaacılık.

[45] Chiero, R. T. (1997). Teachers' perspectives on factors that affect computer use. Journal of Research on Computing in Education, 30 (2), 133-146.

[46] Usta, E. & Korkmaz, Ö. (2010). Pre-service teachers' computer competencies, perception of technology use and attitudes toward teaching career. International Journal of Human Sciences, 7(1), 1335-1349.

[47] Çelikten, M. (2004b). Okul müdürü koltuğundaki kadınlar: Kayseri ili örneği. Sosyal Bilimler Enstitüsü Dergisi, 17(2), 91-118.

[48] Şeker, H. (Ed.) (2013). Eğitimde Program Geliştirme. Kavramlar, yaklaşımlar. Ankara: Anı Yayıncılık.

[49] Pegem A Yayıncılık (PEGEM). (2015). Program geliştirme. KPSS Modülü, Komisyon. Pegem Akademi Yayınları, Ankara.

[50] Çelikten, M. (2005). A Perspective on women principals in Turkey. International Journal of Leadership in Education (8)3, 207-221.

[51] Büyüköztürk, Ş. (2012). Sosyal bilimler için veri analizi el kitabı. İstatistik, araştırma deseni, spss uygulamaları ve yorum. (16. Baskı), Ankara, Pegem Akademi Yayınları.

[52] Shulman, L. (1987). Knowledge and teaching: Foundations of the new reform. Harvard Educational Review, 57(1), 1–14.

[53] Penrod, J. I. & Douglas J. V. (2002). Information Technology Literacy: A Definition. Encyclopedia of Library and Information Science (Ed. Allen Kent), 40, 76-107.

[54] Mason, J. (1998.) Enabling Teachers to be Real Teachers: Necessary Levels of Awareness and Structure of Attention. Journal of Mathematics Teacher Education, October 1998, Volume 1, Issue 3, pp 243-267. [Available online at: http://link.springer.com/article/10.1023%2FA%3A1009973717476], Retrieved on June, 07, 2016.