5th World Conference on Educational Sciences - WCES 2013

Levels of Providing the OECD New Millennium Learner Criteria of the Prospective Teachers Studying in Primary School Teaching Undergraduate Program

İrem AKÇAM YALÇIN[*], Ümit İZGİ

^{a}Hacettepe University, Faculty of Education, Ankara 06800, Turkey

Abstract

The basic purpose of this study is to determine the extent to which the NML criteria determined by the OECD in 2006 apply for the said prospective teachers . It can be observed that prospective teachers have a medium level of meeting NML criteria and according to their own perceptions they are indecisive; the level of meeting NML criteria of prospective elementary teachers in the 4th year are significantly higher than those of the students of the 1st year ; the level of meeting NML criteria of male prospective teachers are significantly higher than that of female prospective teachers.

Keywords: New Millennium Learners, NML criteria, prospective teachers

1. Introduction

There are many different concepts used to identify the generation growing up with digital technologies and accepting these digital technologies as part of their lives. It can be observed that concepts such as New Millennium Learners; Millennials, Digital Natives, Net Generation, Gamer Generation, Instant Message Generation, Cyber Kids etc are used. In a project conducted by the OECD, the concept of NML (New Millennium Learners) was used for the generation growing up with digital technology. Especially the new generation that was born after the 1980's and grew up in a world full of digital technology is called the "New Millennium Learners" (Pedro, 2006). In this study, the term, New Millennium Learners, was preferred.

Though different definitions are used to identify the new generation, they have common properties: they are students that have started life with the technologies of today, online media and new technology is the center of their

*Corresponding Author: Irem Akçam Yalçın Tel.: +90-312-297-8625
E-mail address: iremakcam@gmail.com

lives, perform all their daily functions with technology, prefer graphics instead of texts, enjoy reading an article randomly in capsule form rather than reading it linearly from beginning to end, are impatient in communication, perform multi tasks, learn by practicing-experiencing, skip from subject to subject, instantly want feedback, learn in a game centered manner, prefer digital devices to printed materials, and have high expectations in education and prefer games to "seriously" working and perform many tasks simultaneously (Bilgiç, Duman & Seferoğlu, 2011, Pedro, 2006; Tonta, 2009)

According to Pedro (2006) for the students of the new millennium: Computer games, mobile phones, e-mails, ands the internet are a vital part of their lives. These various experiences have caused differentiations in their brain structures. Due to the digital environment they are in, the thinking models of these children have become different from previous generations (Şahin, 2010). In the report issued by the OECD in 2006, the difficulties experienced in education with the appearance of NML are examined under three sub headings. Alternative Cognitive Skills, Changes in Cultural Practices and Social Values, Expectations regarding Teaching and Learning (Pedro, 2006).

1.1. Alternative Cognitive Skills

They access digital sources rather than printed materials. They prioritize images and music rather than texts, they have ease in multi-tasking, and obtain information from non-linear data. Their information research preferences are unorganized. They do not follow a certain order, they learn a new subject by discovery through trial and error, and they are addicted to digital games, they have trouble focusing on a topic, and their attention span is short.

1.2. Changes in Cultural Practices and Social Values

Even though they socialize on the internet, they are lonely persons, they spend most of their spare time playing games on the computer and internet, they are impatient persons with immediate responses when communicating with each other, animations and music draw their attention more than texts concerning a subject, they have created an abbreviated language unique to them on mobile phones and computers. They express their thoughts freely on the internet, they are extravert persons.

1.3. Expectations Regarding Teaching and Learning

Expectations of New Millennium Learners concerning education are very high. They especially wish that their school's technological infrastructure is good, they use digital instruments in their lessons, study together with their friends, they wish periods are shorter, and that lessons are game centered.

In this sense, as especially faculties of education are the driving power of the education system, it is considered that the change experienced by prospective teachers will have an impact on the entire country through students. Thus, as the students of today and the teachers of the near future, prospective teachers constitute an important group. The determination of the characteristics of this group shall provide an idea on the characteristics of both the undergraduate students of today and teachers of the near future. In this context, the basic purpose of this study is to determine the extent to which the NML criteria determined by the OECD in 2006 apply for the said prospective teachers and whether or not these properties of prospective teachers developed throughout their undergraduate education.

2. Problem Sentence

What are the levels of students studying in the 1st and 4th years of the Elementary Teaching Undergraduate Program for meeting NML criteria and does the said level vary based on them being in the 1st or 4th year?

3. Methodology

As the study is oriented at determining the current status, it was conducted as a relational screening model study. The screening model aims to describe the current status as it is. The individual, object or event that is the subject matter of the study is attempted to be identified under its own conditions without the objective of being changed . In

the relational screening model, the determination of whether or not there is change between two or more variants together and if there is change, the determination of its degree have been set as objectives (Karasar, 2004).

The sample of the study is constituted of prospective teachers studying at an Elementary Teaching Undergraduate Program at a state university located in Ankara, Turkey.

The scale used in the collection of data consists of two sections. In the first section there are questions aiming to determine the personal characteristics of the participants. The "New Millennium Learners Questionnaire" that was used in order to determine the NML criteria of participants, was developed by Şahin in 2010. The scale consists of a total of 38 items, of which 18 are concerning the "Alternative Cognitive Skills" sub-dimension, 10 are concerning the "Changes in Cultural Practices and Social Values" sub-dimension, and 10 are concerning the "Expectations Regarding Teaching and Learning" sub-dimensions. For the purpose of determining the reliability of the scale, Şahin calculated the cronbach alpha correlation coefficient. The said coefficient was determined to be 0.88. In order to determine the reliability of the scale again under the scope of the study, the cronbach alpha correlation coefficient was calculated and determined to be 0.859.

Findings regarding the personal details of the participants were analyzed with percentile and frequency statistics. In the comparison of two groups in the analysis of data, the independent sample t-test was used. The points that can be obtained from the 5 point likert scale are between 1 and 5. When scaled according to the 5 point likert type, this grouping is obtained: 1.00-1.80 : Not suitable at all, 1.81-2.60 : Not suitable, 2.61-3.40 : I am indecisive, 3.41-4.20 : Suitable, 4.21-5.00 : very suitable. The level of meeting NML criteria by participants were interpreted according to this grouping.

4. Findings and Discussion

Table 1. Frequencies and percentiles regarding the gender, years of computer use, and monthly income variables of prospective teachers on a year level

		1st year		4th year		Total	
		f	%	f	%	f	%
Gender	Female	78	75.00	56	59.57	134	67.68
	Male	26	25.00	38	40.43	64	32.32
Years of computer use	0-2 years	27	25.96	1	1.06	28	14.14
	3-4 years	26	25.00	10	10.64	36	18.18
	5-6 years	21	20.19	21	22.34	42	21.21
	7-8 years	18	17.31	18	19.15	36	18.18
	9-10 years	7	6.73	17	18.09	24	12.12
	More than 10 years	5	4.81	27	28.72	32	16.16
Monthly income variables	0-1,000 TL	48	46.15	16	17.02	64	32.32
	1,001-2,000 TL	37	35.58	52	55.32	89	44.95
	2,001-3,000 TL	11	10.58	14	14.89	25	12.63
	3,001-4,000 TL	6	5.77	12	12.77	18	9.09
	4,001-5,000 TL	2	1.92	0	0.00	2	1.01
	More than 5,000 TL	0	0.00	0	0.00	0	0.00
Total		104	100.00	94	100.00	198	100,00

Frequencies and percentiles regarding the gender, years of computer use, and monthly income variables of prospective teachers on a year level have been provided in Table 1. Of the 198 students consisting of 104 students in the 1st year and 94 in the 4th year, a proportion of 67.68% were females and 32.32% were males. When examined according to their year, it was observed that 75% of students in the 1st year were females and 25% were males and 59.57% of students in the 4th year were females and 40.43% were males. When the years of computer use were examined, it could be observed that students in the 1st year used computers for "0-2 years" the most and students in the 4th year used computers for "more than 10 years" the most. When examined in terms of the socio-economic status of students, it could be observed that the monthly income of 1st year students ranged between "0-1,000 TL" the most and ranged between "1,001-2,000 TL" the most for 4th year students.

Table 2. Averages of general and sub-dimensions pertaining to the levels of meeting the NML criteria of prospective students

	N	$\bar{x}$	sd
General	198	2.87	0.54
Alternative Cognitive Skills	198	3.08	0.70
Changes in Cultural Practices and Social Values	198	2.48	0.72
Expectations Regarding Teaching and Learning	198	2.96	0.59

Averages of general and sub-dimensions pertaining to the levels of meeting the NML criteria of prospective students have been provided in Table 2. It can be observed that prospective teachers have a medium level of meeting NML criteria and according to their own perceptions they are indecisive. However, when sub-dimensions are observed, there is a different case. It can be observed that levels of prospective teachers for meeting the criteria in the "Changes in Cultural Practices and Social Values" sub-dimension were low and in the "not suitable" range. For the other two sub-dimensions, it was observed that they were "indecisive" just as in the general average. Based on these findings, it can be concluded that prospective teachers do not quite fit the criteria determined by the OECD.

Table 3. The comparisons of averages pertaining to general and sub-dimension and meeting NML criteria on a year level

	year	N	$\bar{x}$	sd	df	t	p
General	1st year	104	2.63	0.52	196	-7.75	.000*
	4th year	94	3.15	0.41			
Alternative Cognitive Skills	1st year	104	2.66	0.58	196	-11.30	.000*
	4th year	94	3.54	0.50			
Changes in Cultural Practices and Social Values	1st year	104	2.07	0.66	196	-10.67	.000*
	4th year	94	2.94	0.46			
Expectations Regarding Teaching and Learning	1st year	104	3.08	0.65	196	2.86	.004*
	4th year	94	2.84	0.49			

$p< .005$

Table 3 provides the comparisons of averages pertaining to general and sub-dimension and meeting NML criteria on a year level. When both general and sub-dimensions are examined, it can be observed that the levels of meeting NML criteria of prospective elementary teachers in the 4th year are significantly higher than those of the students of the 1st year. In general, it can be observed that even though prospective teachers in both the 1st and 4th years are "indecisive", in the "Alternative Cognitive Skills" sub-dimension the levels of meeting NML criteria of those in the 4th year are higher and in the "suitable" range. In the "Changes in Cultural Practices and Social Values" sub-dimension, it was observed that the level of those in the 1st year for meeting NML criteria was low and in the "not suitable" range.

Prospective teachers in the 4th year received both two semesters of the computers course and used information technology in their lessons after commencing their undergraduate studies. Furthermore, while a proportion of 65.9% have been using computers for a period of 7 years or more, only 28.85% of those in the 1st year have used computers for 7 years or more. These factors can be considered for explaining the significant difference between prospective teachers of the 1st and 4th year years.

Table 4. The comparisons of general and sub-dimension averages of the levels of prospective teachers meeting NML criteria according to gender

	Gender	N	$\bar{x}$	sd	df	t	p
General	Female	134	2.80	0.56	196	-2.88	.004*
	Male	64	3.03	0.47			
Alternative Cognitive Skills	Female	134	2.92	0.67	196	-5.02	.000*
	Male	64	3.42	0.64			
Changes in Cultural Practices and Social Values	Female	134	2.36	0.72	196	-3.55	.000*
	Male	64	2.73	0.65			
Expectations Regarding Teaching and Learning	Female	134	3.00	0.61	196	1.22	.224
	Male	64	2.89	0.54			

$p< .005$

The comparisons of general and sub-dimension averages of the levels of prospective teachers meeting NML criteria according to gender have been provided in Table 4. When both general and the sub-dimensions of "Alternative Cognitive Skills" and "Changes in Cultural Practices and Social Values" are examined, it can be observed that the level of meeting NML criteria of male prospective teachers are significantly higher than that of female prospective teachers. Furthermore, it was observed that even though both male and female prospective teachers in general were "indecisive", the level of meeting NML criteria in the sub-dimension of "Alternative Cognitive Skills" were higher and in the "suitable" range. In the sub-dimension of "Changes in Cultural Practices and Social Values" it was observed that the level of meeting NML criteria of females was low and in the "not suitable" range.

5. Recommendations

As a result of the conducted study, even though the level of students in the 4th year for meeting NML criteria were determined to be significantly higher than the levels of 1st year students, it can be observed that they cannot completely meet NML criteria. It can be said that the undergraduate education they receive at university has a positive contribution to this difference; however, it is not adequate. Thus, emphasis should be laid on having prospective teachers educated in line with the requirements of our age. To this end, prospective teachers should be made conscious of the student profile that they will teach in the future and they should be encouraged and guided at the same time to improve themselves. In addition to providing compulsory and elective courses for this purpose, these topics can also be taught in current courses.

Furthermore, the levels of female students meeting the NML criteria are significantly lower compared to the levels of male students. It is necessary to provide equal opportunity in order to enable female students to improve themselves in information technology.

References

Şahin, M. C. (2010). *Eğitim fakültesi öğrencilerinin yeni binyılın öğrencileri (OECD-new millennium learners) ölçütlerine göre değerlendirilmesi.* Yayımlanmamış doktora tezi. Anadolu Üniversitesi Eğitim Bilimleri Enstitüsü, Eskişehir.

Pedró, F. (2006). *The new millennium learners: challenging our views on ICT and learning OECD-CERI:* [Available online at: http://www.oecd.org/dataoecd/1/1/38358359.pdf], Erişim tarihi: 1 Ocak 2013.

Karasar, N. (1994). *Bilimsel araştırma yöntemi.* Ankara: Nobel.

Tonta, Y. (2009). Dijital Yerliler, Sosyal Ağlar ve Kütüphanelerin Geleceği. *Türk Kütüphaneciliği,* 23*(4),* 742-768

Bilgiç, H. G., Duman, D. ve Seferoğlu, S. S. (2011). *Dijital yerlilerin özellikleri ve çevrim içi ortam tasarlanmasındaki etkileri.* Akademik Bilişim, İnönü Üniversitesi, Malatya.