The Use of Information Technology in Art Education: Opportunity or Threat?

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Abstract
This study aiming to determine roles of Information Technology (IT) in art education was conducted at Fırat University at the fine arts faculty in the academic year with the participation of students studying in this field. The study was descriptive and based on the hypothesis ‘’ Besides some advantages of information technology in art education, there are possible limitations in it.’’ The data were obtained by questionnaire and the results are summarized below.

The students which are population of this study see IT as an important and necessary for education. These students find out that the instructors’ qualifications and the equipment related to IT are not enough. According to the students, IT in art education contributes to communication and critical thinking but it does not contribution to reformist viewpoint, creativity, visual perception, ability of fiction, esthetic and problem solving. Moreover the students don’t agree the view that there is some possible limitation of IT in art education. Also, it has been determined that the view of students vary according to the demographic variables. Evaluated with the results, it is concluded that the students see IT as an opportunity in art education.

Key words: Information technology, Art education, Teaching technology, Education technology.

1. Introduction

Nowadays called information era, as a necessity of this era education is getting more dependent on Information Technology (IT). The stages of historical development of computer and IT are in the form of learning computers, learning from computers and learning with computers (Jonassen, 2000). Today, although first two stages are partly active IT is getting more related to the ‘’learning with computers’’. That the CEOs of big information firms has active role in education policies in the USA is an example of IT’s role in education (www.zaman.com.tr). So it is not surprising that IT has affected all level of education and worldwide usage (Sarıtaş & Üner, 2013; Tor & Erden, 2010). Indeed as digital media becomes integrated into the art curriculum, art educarors have been encouraging students to use computers and other digital technologies (Colman, 2004).

The IT’ role is not limited with the basic policies about this topic and it has affected remarkably not only the function and structure of education but also practices of interclass teaching (Tuti, 2005; Delacruz, 2009; Durdukoca & Arıbaş, 2011). For example the computer as medium creates new forms and genres for artists and designers (Bolter & Gromala, 2003). So, the question ‘must IT be used in education?’ has no meaning anymore. Because within the basic dynamics of information era and İnformation society IT has a leading role (Yalçınkaya, 2002). Thus it is not indispensable that schools attach importance to IT (İşman, 2002). In this point, it is meaningful to discuss that the transforming of technology in education to forward (Karasar, 2004) and how IT can be more effective and useful in education are meaningful.

Another subject that should be debated about usage of IT in education is whether this technology is suitable to each discipline or not .Also, the necessity that the field, nature of discipline that IT is applied is another debatable subject. Because in one sense, the embodied version of information, technology may show differences in its application in education. For example ,the role of IT in such areas as maths and biology where factual and objective data is intensive and areas such as literature and visual arts education, which pay attention to aesthetic and commentary development ,where subjective data is found densely is quite different. In art education process; detection, being informed, thinking, designing, commenting, expressing, criticizing behaviours are acquired through using the art language in view of aesthetic principles (Aykut 2006). When these arguments are not performed, it should not be forget that IT, carrying some extra potentials and opportunities in education, may brings some risks. Technology really inspires in art education? (McKay, 2006). Any Human made technology is not perfect .So it is important to debate the risk of IT as long as its uses in art education. Because global culture functions through visual culture (television, radio, newspapers, telephones, faxes, World Wide Web, etc.) to produce hegemonic, virtual realities, including our social consciousness and identities (Freedman & Stuhr, 2004; Freedman, 2003). Despite the ease with which many art educators have embraced technologies and tools for artistic practice in their classrooms in the past, maximizing the Internet and information communications technology usage in the visual arts classroom has been somewhat problematic (Wilks, Cutcher & Wilks, 2012).

The usage of IT the aim of which is to develop aestheticity is threat or opportunity should be questioned. In this point, there is a parallelity in technology and art. Especially , that the developments that take place in IT lead to radical changes and that art education is getting evolving into anti-conventional point is seen. Hence it is inevitable to see changes in art along with art education (Kurtuldu, Aydın 2011; Bölükoğlu, 2002). Firstly, IT is expected to lead important changes in art education, teaching media, teaching method, evaluation and assessment, etc… .Secondly it is foreseen that IT may bring radical changes in stereotyped information giving process in art education(Uşun 2004).Also, it is known that IT has a potential to give opportunities for students especially in designing .The indispensable part of information era ,computers are of great important for art education as in any other field (Bölükoğlu 2004). However, that there are some suspects as the dense and false usage of IT in art education may carry some potential to cause bad results despite its useful sides. Even some thinkers put forward that in time technology will wipe out art (Kurtuldu ,aydın2011:388). These suspects , in general meaning technology, in special meaning IT are that these inputs will limit students intuition, creativity, memory power and socializing ability (Ünalan, 2005; Özdemir et all., 2004) and there are proofs that integration of current education and technology is problematic (Becker, 2001; Cuban, 1986, 2001; Noble, 1998: Oppenheimer ,1997 Ac cited in Gür, Özoğlu & Başer ,2010). These topics support the mentioned risks. To resolve these suspects it is important in this sense as the usage of IT in art education risk or opportunity. Also enlightening these suspects is important in that IT usage in art education will be more effective and efficient.

2. METHOD

2. 1 Population and Sample

The population of this study are students studying at fine art faculty of Fırat University in the academic year of 2014-2015. Sample is consisted of 86 students from this population. The distribution of students according to demographic variables is shown in table 1.

Table 1. The distribution of students in the sample according to demographic variables.

Variables		N	%
Gender	Female	49	57
	Male	37	43
Internet	Yes	59	68.6
	No	27	31.4
Class	2. grade	25	29.1
	3. grade	28	32.6
	4. grade	33	38.4
Type of highschool	Fine arts	19	22.1
	Vocational	20	23.3
	Anatolia	11	12.8
	General	36	41.9
Total		289	100.0

2. 2 Data and Analysis

The data of this study conducted with descriptive survey model were obtained by questionnaire developed by researchers. Firstly, an item pool was created by doing literature review for the questionnaire. Then, the questionnaire, consisting of 20 items four of which are about personal and the others are about IT, was finalized in accordance with expert opinion. The questionnaire items were rated as: 1. I disagree (1.00-1.80), 2. I do not agree (1.81-2.60), 3. I am undecided (2.61-3.40), 4. I agree (3.41-4.20) and 5. I strongly agree (4.21-5.00).

In the study; arithmetic mean, standard deviation, percent and frequency techniques, variance analysis, 'T' test (for homogenous items) and KWH and MWU tests (for not homogenous items) were used. Significance level was accepted as p= 0.05.

3. FINDINGS

3. 1. Findings About the Students' Perception toward to Information Technology

Findings about the students' perception toward to IT and the views toward to current situation are listed in table-2.

Table 2. Students' perception toward to IT

Item no	Views	$\overline{X}$	S
1.	IT courses are necessary and very important in art education	4.33	.91
2.	Information equipment are sufficient and convenient for current situation	2.50	1.11
3.	Lecturers of IT are qualified in this field	2.65	1.15
4.	IT education that I take is sufficient for unique design	2.30	1.04
5.	IT courses are thought in a modern way	2.84	1.34
6.	IT courses must be thought by Computer Engineering	2.94	1.69
7.	I can easily reach IT sources at the University	2.86	1.22

As it is shown in Table 2, it is understood that students, studying taking art education, strongly agree ($\overline{X}_5$=4.33) the view '' IT courses are necessary and very important in art education''. But according to the students, Information equipment are not sufficient and convenient for current situation ($\overline{X}_6$=2.50), IT education that I take is not sufficient for unique design ($\overline{X}_8$=2.30). Same students are undecided that IT courses are thought in a modern way ($\overline{X}_{10}$=2.84), reaching IT sources at the University ($\overline{X}_{14}$=2.86) Lecturers of IT are qualified in this field ($\overline{X}_7$=2.65.

According to the gender variables, there is a remarkable difference among students' view toward to 4. item. According to the analysis [(MWU=731.000; p=0,046)], Female students (MR_1=47.08) have more adopted to the non-parametric item "IT education that I take is sufficient for unique design" than male students (MR_2=38.76). According to the having internet variance, there is remarkable difference among students' view toward to 1. Item [(t_{84}=2.749; p=0,036)]. So, the item "IT courses are necessary and very important in art education" has been more adopted by students having internet ($\overline{X}_1$=4.44) than not having internet ($\overline{X}_2$=4.07).

There is a remarkable difference among students' view toward to 2. İtem in table 2 according to class variance [($F_{2\text{-}83}$=8.163; p=0,001)]. The scheeffe test done for this parametric item, it is shown that it is between 2. grade and 4 and 3. Grade. According to this, the view "Information equipments are sufficient and convenient for current situation" has more adopted by 2. grade students ($\overline{X}_1$=3.20) than 3. grade ($\overline{X}_2$=2.25) and 4. grade students ($\overline{X}_3$=2.18). Similarly, there is a remarkable difference among students' view toward to 3. item according to class variance [($F_{2\text{-}83}$=4.115; p=0,020)]. The scheeffe test done for this parametric item, it is shown that it is between 2. grade and 4 and 3. grade. According to this, the view "Lecturers of IT are qualified in this field" has been more adopted by 2. grade students ($\overline{X}_1$=3.20) than 3. grade ($\overline{X}_2$=2.25) and 4. grade students ($\overline{X}_3$=2.18).

There is a remarkable difference among students' view toward to 3. item in table 2 according to type of high school variance [($F_{3\text{-}83}$=3.495; p=0,019)]. The LSD test done fort his parametric item has shown that this difference is between fine art high school graduate students and general high school graduate students. According to this, the view "Lecturers of IT are qualified in this field" has been more adopted by fine art high school graduate students ($\overline{X}_1$=3.05) than general high school graduate students ($\overline{X}_4$=2.22). Similarly, there is a remarkable difference among students' view toward to 4. item according to type of high school [($F_{2\text{-}83}$=3.977; p=0,011)]. The scheeffe test done fort his parametric item has shown that this difference is between general high school graduate students and Anatolia high school graduate students. According to this, the view "IT education that I take is sufficient for unique design" has been more adopted by Anatolia high school graduate students ($\overline{X}_3$=3.00) than general high school graduate students ($\overline{X}_4$=1.91). There is a remarkable difference among students' view toward to 6. item according to type of high school variance [(KWH=5.178; p=0,047)]. The MWU test done fort his non parametric item [(MWU=127.000; p=0,042)] has shown that the item "IT courses must be thought by Computer Engineering" has been more adopted by fine art high school graduate students (MR_1=23.32) than vocational high school graduate students (MR_2=16.85).

3. 2. The Findings toward to the Opportunities of IT in Art Education

Findings about the students' perception of the students toward to opportunities of IT in art education are shown in table 3.

Table 3.Perception of the students toward to opportunities of IT in art education

Item no Views	$\overline{X}$	S
8. IT courses gave me a reformist perspective	3.02	1.22
9. IT courses gave me creative perspective	2.99	1.24
10. IT courses contributed to develop my visual perception	3.11	1.19
11. IT courses contributed to develop my fiction ability	3.00	1.21
12. IT courses contributed to develop my esthetic side	3.16	1.25
13. IT courses contributed to develop my critical thinking	3.41	1.17
14. IT courses contributed to develop my problem solving capacity	2.77	1.12
15. IT courses contributed to develop my communication skills	3.45	1.13

According to table 3 reflecting students' view, IT courses have contributed to students' communication skills ($\overline{X}_{23}$=3.45) and critical thinking ($\overline{X}_{21}$=3.41). According to the students, it is understood that IT courses has contributed to develop reformist perspective($\overline{X}_{15}$=3.02), creativity ($\overline{X}_{16}$=2.99), visual perception ($\overline{X}_{17}$=3.11), fiction creative ability ($\overline{X}_{18}$=3.00), esthetic ($\overline{X}_{20}$=3.16) and problem solving capacity ($\overline{X}_{22}$=2.77).

There is a remarkable difference among students' view toward to 9. item [($F_{2\text{-}83}$=4.194; p=0,018)] and 15. item [($F_{2\text{-}83}$=4.194; p=0,018)] in table 3 according to class variance. Scheeffe test done for this parametric items show that the "IT courses gave me creative perspective" has more adopted by 2. grade students ($\overline{X}_{1}$=3.36) than 3. grade students ($\overline{X}_{2}$=2.46). Similarly, the view "IT courses contributed to develop my communication skills" has more adopted by 2. grade students ($\overline{X}_{1}$=3.56) than 3. grade ($\overline{X}_{2}$=2.57) and 4. grade students ($\overline{X}_{3}$=3.42). According to the type of high school, there is a remarkable difference among students toward to 10. Item [($F_{2\text{-}83}$=2.872; p=0,041)]. According to scheeffe test result the view "IT courses contributed to develop my visual perception" has more adopted by Anatolian high school graduate students ($\overline{X}_{3}$=4.00) than fine art graduate students ($\overline{X}_{1}$=2.95).

3. 3. Findings toward to the Threats of IT in Art Education

Findings about the students' perception toward to threats of IT in art education are shown in table 4.

Table 4. The students' perception toward to possible threats of IT in art education

Item no Views	$\overline{X}$	S
16. IT courses weakened my intuitive strength in conceptual	2.51	1.29
17. IT courses affected me negatively in terms of socialization	2.23	1.26
18. IT courses made me accustomed to memorization and without comprehending	2.77	1.41
19. IT courses weakened my memory strength	2.02	1.12
20. IT courses enabled to become isolated	2.10	1.29

Table 4 has shown that the students of IT did not agree possible risks with respect to the view of perception ($\overline{X}_{24}$=2.51), socializing ($\overline{X}_{25}$=2.23), memory ($\overline{X}_{28}$=2.02), and becoming isolated ($\overline{X}_{29}$=2.10). According to the same table, the students has been undecided on the view of IT courses made them accustomed to memorization and without comprehending ($\overline{X}_{26}$=2.77).

There is no significant difference among students toward to listed item in table 4 with regard to gender, class and having internet variances. But according to highschool variance toward to 16. Item, there is a remarkable difference among students' view [($F_{2\text{-}83}$=3.335; p=0,023)]. The scheeffe test done for this parametric items has shown the view "IT courses weakened my intuitive strength in conceptual" has more adopted by Anatolia high school graduate students ($\overline{X}_{3}$=3.09) than general high school students ($\overline{X}_{4}$=2.77).

4. Discussion and Conclusion

In the study, it was found that the students who have art education think that IT is vitally important for art education. This finding is parallel to related literature data and research results on which were done students by Kurtuldu & Ayaydın in 2011 (Gür, Özoğlu & Başer, 2010). The view that IT is vital for art training has been accepted more by students who have internet access.

Students who have art education think that the equipment and practice in their department are insufficient. The ones who were graduated from high school and the students in upper classes talk about this insufficiency more often. In the research, it was found that the female students are more optimistic about the art education when compared with male students. The instructors in the department are more optimistic about IT sufficiency than the students who were graduated from fine arts high school.

The conclusion from the table 3 including students' views about the opportunities provided by IT to art education is that: IT contributes to critical thinking skills and communication skills in art education. This finding supports the literature data about IT's improving the communication skills in art training (Tillander 2011; Black & Browning, 2011; Ünalan, 2005; Assey, 2000). However; it is found that IT doesn't contribute to improver point of view, creativity, visual perception, editing, aesthetics and problem solving skills. This conclusion doesn't support the research results about IT's contributing to creativity and problem solving skills (Ünalan, 2005) and providing opportunities in the design process (Bölükoğlu, 2004). These features are vitally important in art training, though. That IT doesn't improve students' creativity can be seen as a major insufficiency. Because creativity in art education in recent years, is considered the dominant features (Buyurgan & Buyurgan, 2012; Aykut, 2006). Moreover, existing IT applications, to develop students' visual perception can be considered as a deficiency. Because the expected thing from IT in art education is that give and allow students meaning to visual design and create a new visual designs (Karataş & Özcan, 2010). These deficiencies in the investigation, as determined to be related to existing IT-related hardware failure, such as applying this technology may also depend on the nature of the teaching staff. Because to take the advantage of technology in the education system there is a need of qualified teachers (Gündüz & Odabaşı, 2004). Related to this subject, Özbudun's identified is remarkable that Art educator training opportunities in the universities of the world of information technology is used as a partial and local. Hence IT, art education, students' communication skills and it can be said to mean the opportunity to develop critical thinking skills.

When the subject is handled in terms of variables, it was determined that lower classes (2.grade) are more optimistic in relation to developing IT's creativity and communication skills. This finding can be related to high expectation level of upper classes. That they cannot realize the problem completely can be also an important factor. Moreover, it is determined in the study that the ones graduated from Anatolian School are more optimistic than the ones graduated from Fine Arts High School on the subject of IT's contribution to students' visual perception. As the ones graduated from fine art high school got same education before, they have higher expectation. This situation can be about this.

On the subject of IT's possible risks in art education, the students did not confirm the research hypothesis "If IT is not used correctly, it can cause some risks in art education". So the students who took part in research did not accept that using IT intensively weakens intuition and memory power, hinders socialization and isolates individual. Those students were undecided about that using BT in art education causes rote learning and makes them lazy. This finding can show that the students don't have enough knowledge about the subject or have doubt about the subject. That the students don't have enough knowledge about the subject can be about the traditionality of education that they got.

According to results of research, in parallel with literature, it was found out that the students perceive IT in art education as an opportunity; not as a risk or a threat. Although sample of research is limited, this result can be mostly related to the positive emphasize of IT on education in literature. There are few comprehensive and elaborate researches about the roles of IT in education and especially in art education. This situation may have affected the views of the students on this aspect.

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