The situation of art education for disabled people in a new visual age

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Abstract

In this research, the position of art education for disabled people in the new visual age has been evaluated. For this purpose, some subtitles were determined. The subtitles were examined with to address these questions: what is new modern world and visual structure?, what kind of connection there is between art and technology?, what kind of connection there is among technology, education and disability?, what is the situation of art, technology and disability in new age?, what kind of connection there is among adaptive technology, art and disability?
Results of this research revealed that: (1) new modern world will be in accordance with new visual structure and this connection will continue in the future with renewal; (2) art and technology have a strong connection and this strong structure at present and in the future affects the relationship between them; (3) technology, education and disability depend on each other and this situation creates adaptation to the age and bring innovations; (4) art, technology and disability have a very strong connection and collaboration in the new age that have ever been before; (5) adaptive technology, art and disability have an essential collaboration and this situation creates new possibilities in every day life.

 Keywords: art education, arts, disabled people, visual age, technology, adaptive tools, rehabilitation.

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1. Introduction

Time passes and life goes on. Every second, new changes occur and these changes become parts of our lives as in the art. From the beginning of human history, art has deeply affected human life in different aspects such as educational, technological and so on (Salderay, 2001).

Time and art have a strong relationship and this relationship brought innovations and adaptation. Technological developments have occurred in many parts of daily life based on this innovations and adaptation. These developments have made our lives easier and made useful and comfortable contributions to modern human life. This modern life requires quick thinking, applying and adaptation skills for people who live in modern cities. Also, this changeable situation can be difficult for normal people when particularly conditions require direct and immediate adaptation. At this point, the question of where should disabled people be stand arise. Everything changes very quickly everyday and every second. However, disabled people can not easily adapt to this quick changeable situations and issues as normal people. Furthermore, this quick changing situation can affect the education period particularly special education for disabled people. Since education of disabled people require longer time of education, detailed education programs, systematically prepared individualized education plans. When they learn something, this learned information or skills might be old for this modern changeable world because this modern changeable world wants only changeable, intelligent, skilful, gifted, well-educated human profile (Collins & Halverson, 2009; Salderay, 2008; Salderay, 2001; Buckingham, 2000).

However, when no hopes and solutions remain, art education can be a signal for hope. Art and art education can be adapted, corresponded with everything and applied to everyone. Factors such as age, gender, type of special need, race or education level do not matter. Therefore, art and art education can be used to educate or integrate disabled people who need special education. Nature of art includes the integration, hope and love. These components help people to learn to live with their disadvantages, exceptional positions and special needs. Therefore, at this critical point art teachs disabled people to survive in the new modern age (Salderay, 2008).

Art has affected and educated people from the beginning of visualized history which is named as cave paintings. This situation can be seen or felt in every kind of community or group. All communities in the world have different people and characteristics. In spite of different people and characteristics in the communities, connective power of art brings people with different characteristics together in the same platform. Such as normal, abnormal, child, young, old, married, unmarried, disabled ... etc. (Salderay, 2010; Collins & Halverson, 2009; Sheff & China, 2002).

One of the special features of art is the ability of social integration. As it is known, the communities have different kinds of people. Therefore, connective power of art can be usefull for social integration and adaptation. Many people in the new modern world fell alone and may be some times desperate. Throughout the history, art and art education has given a hope to people. This hope is very important for people especially disabled people or people who are isolated from the community. At the same time, renewable feature of art education has given a big opportunity for this survival in the community in the all ages of history. Therefore, art and art education has been an important aspect of all areas of human life and at the present time in respect to technological innovations and digital visual information (Salderay, 2008; Sheff & China, 2002).

What will be the role of art education in the new technological age? Where should be stand visuality? These questions are being asked by researchers, scientists and educators. Time has showed and will show the situation of art education and time will give a shape to the future of art education. A new visual age has brought new technological oppurtinities for humanity such as visuality, speed, information transfer and so on. Art education tries to adapt to all innovations in the new modern life. This adaptation is a big achievement for art education in the new modern world. At the same time, this modern world provides a very big oppurtinity to art

education for disabled people. The new world's opportunities and technology provides new hopes for disabled people and these hopes lead to new hopes for art education which might be used for their rehabilitation and adaptation (Collins & Halverson, 2009; Salderay, 2001).

2. New Modern World and Visual Structure

New inventions and technological improvements in science in the last 20 years is much more than that human history had in 200 years ago. For example; only scientists were able to use the Internet fifteen years ago, the World Wide Web was not working. However today, the internet and the web have transformed commerce creating entirely new ways for retailers and their customers to make transactions, for businessmen to manage the flow of production of inputs and market products, and for job seekers and job recruiters to find one another one, and of course for education systems (distance education programmes, electronic books, libraries, etc.) (Suny Levin Institute, 2014; Culp, Honey, M., & Mandinach 2003). The improvements in information technology in the early 1990s about computer hardware, software, and telecommunications greatly increased people's ability to access and share information. 20-21 years ago, Internet was commercialized; 19-20 years ago, first mobile phone with internet connection realized; 17-18 years ago, Google was named as the search engine of choice by PC magazine; 14-15 years ago, blackberry was launched; 11-12 years ago, facebook was launched; 9-10 years ago, twitter was launched; 8-9 years ago, iphone which is the first smart phone was introduced; 7-8 years ago, group on was introduced; 4-5 years ago, 17 million smart tablets has been sold; 3-4 years ago, Google glass was announced. Therefore, it seems that every 60 seconds new applications fullfilled users' specific needs has been created (Suny Levin Institute, 2014). This important data shows that humanity changes and improves inconceivability. This impressive change and improvement affect visuality and visual perception as well. Consequently, this normal interactive relation affect the education system.

Nevertheless, new education systems try to teach art with science and technology. So students can learn how artistic imagination and aesthetic requirements affect science and technology development (The College Board for the National Coalition for Core Arts Standards, 2011). At the same time, the integration of technology into the arts curriculum represents a natural extension of the learning expectations associated with each art form (Ontario, 2009).

About the issue, in conjunction with Heise and Grandgenett (1996)' opinion, Sheng-Kuan Chung (2006) expressed that in the age of virtual environment, integration of computer technology with arts education is essential for preparing arts students and prospective arts teachers alike to function in a rapidly-changing world. Therefore, information and communication technologies provide a range of tools that can significantly facilitate teachers' instructional strategies and support students' learning in the arts (Ontario, 2009).

3. Art and Technology

In art education, students develop and use skills that lead information and communication technologies to competence through forming ideas, plans, processes and solutions for challenges or tasks. They can use information and communication technologies when learning a concept, completing an activity or responding to a need (ACARA, 2011). About this issue, Janda (2004) make a comparison be¬tween the role of technology in art and the role of technology in teaching in order to reflect on personal experience with technology and pedagogy.

Currently, art educators are inconsistent in using technology for different levels in the art classroom for exploring art, discussing art, and creating art (Geiger, 2009). As it is known, visual arts have connections with design and technology. It is important that students can realize connections in other learning areas within the curriculum (ACARA, 2011).

So UNESCO-The World Conference on Arts Education (2006) emphasized that imagination, creativity and innovation are present in every human and can be nurtured and applied. There is a strong connection between these three core processes. At the same time, these three

different relationships with technology can also exist in teaching (teaching about technology, teaching inte-grating technology and teaching facilitated by technology). As in art, the three relation¬ships can co-exist in teaching as well. However, the last two relationships might be mistaken for each other and indeed might occasionally be at cross-purposes (Janda, 2004).

On the other hand, art-and-technology has focused its inquiry on the materials and/or concepts of technology and science, which it recognizes artists who have historically incorporated in their work (Shanken, 2002). Art organizations keep up-to-date with technology in order to provide effective access for people with various abilities. The accessibility initiative provides an opportunity to understand bosses and better accommodate their needs, thereby increasing audiences and creating stronger relationships with arts employers (Laidlaw, 2013, p. 3).

4. Technology, Education and Disability

Modern world has brought many innovations to the lives of disabled people. Especially at the present time, information and communications technology (ICT) help and give an opportunity for disabled people to learn to live with their disabilities and capacities. Today's assistive technology, which is adapted to everyone's abilities, means that disabled users are able to participate in all aspects of social life based on more equal terms than ever before (Eid, 2015). Also this technological condition helps to disabled people's education and/or rehabilitation settlements. Therefore, people with disabilities achieve their full potential through their participation in an inclusive high quality education system that is responsive to their needs. People with disabilities have opportunities to continue to learn throughout their lives (The Council of Australian Governments, 2011).

Information and communications technology and Assistive Technology for the development of disabled people involve adopting appropriate techniques to obtain maximum benefit. In addition, the use of assistive technology can increase disabled people' capabilities and independence both in and out of school settings. These technologies can be used for communication and productivity or to provide an individual an opportunity to experience recreational opportunities (Eid, 2015). New education systems should use new age technologies and materials with an educated and professional staff.

Therefore, the purpose of using technology should meet already established educational goals, and must be applied by a teacher who is properly trained to integrate it into teaching and instruction, as well as strong school leadership that ensures effective deployment and implementation. Adequate technical support and appropriate school infrastructure, including adequate access to computers and bandwidth, are also important conditions that will help to ensure that technology has a positive effect on student learning and achievement (Grinager, 2006). About this issue; Sheng-Kuan Chung (2006) expressed that the development of computer technology has progressively transformed modern societies into a virtual environment where digital devices are now indispensable. At this point, education practitioners can take a very important responsibility about the information transformation, technology and use especially at the present time for normal and/or exceptional people.

At the same time, educators or rehabilitation staff who use technology for education or rehabilitation can respond to students' needs and help them to overcome potential barriers (England-Department for Education, 2013). So, the introduction of technologies into the learning environment offers educators another opportunity to rethink their teaching and learning practices. The evidence suggests that information and communication technology can support inclusive practice in a variety of ways, including motivating learners (disabled people) and deepening their engagement in the learning process (Walker & Logan, 2009).

Although educators may legitimately argue about the strategies and methods of education, all agree that participation in the world of the 21st century will demand technology competence (Assey, 2015). As it is known, this technological competence encourage new improvement and new hopes especially for disabled people. So, disabled people require different methods and

techniques to meet their instructional needs. Computer technology offers this potential for disabled people's instructional needs (Leach, Billingsley, Powers, Clark, Jordan, Brendell, Garganus, Gann, Brandy, Baggarley, Summey, Harrison, Boyler, & Halloway, 1988). In addition to the computer technology that creates access those 'technologies' for disabled people, the teacher has brought to the learning environment these technologies which include theoretical knowledge, imagination, experience and judgement are also critical (Taylor, 2005).

5. Art, Technology and Disability in New Age

Recent developments in technology of learning allow educators to reconsider basic teaching and learning methodologies and practice (Walker & Logan, 2009). For this reason, technology provides a growing number of ways to facilitate learning (The Kennedy Center, 2013).

Therefore, contemporary visual culture is associated with the expanding technology skills and knowledge of the students and teachers for teaching interdisciplinary arts and humanities to the new generation (Chung, 2007; Chung, 2006).

The mainstream art world has pretended that art could mostly ignore the technological and scientific revolutions (Wilson, 2002). So it has been expressed that technology and computer technology plays an increasingly important role in the world of art (Chung, 2006).

As it is known, in the past evolving technology has always played an important role in the historical development of the (visual) arts (Assey, 2015). About this issue, Janda (2004) emphasized that "First, art in some sense might be about technology. Second, art might integrate technology into the work. Third and most obviously, art might be facilitated by technology". This opinion reminds this question "what is art?" or speculate on how advances in technology might change the definition and function of the visual arts (California Department of Education, 2004).

Basically, the visual arts help human beings to organize and make sense of what they observe and experience (California Department of Education, 2004). In this situation, the development of a solid foundation in arts discipline brings depth to the mixing of technology and art so that students (normal or exceptional) can be bold and innovative in discovering themselves and the world around them (California Department of Education, 2004).

About this issue, Assey (2015) expressed that we need more research on the use of technology in arts education. Creating works through electronic technology requires a variety of skills, such as planning and preparing, managing time, meeting deadlines, collaborating, and resolving conflicts (California Department of Education, 2004). Therefore, the International Society for Technology in Education's (ISTE) teacher standards established in 1992 address the technology needs of educators. The three areas that teachers need to master are 1) basic computers/technology concepts, 2) personal/professional use and 3) applications in instruction. Arts educators will determine the instructional need and then identify the technology integration strategy (Roblyer, Edwards & Havriluk, 1997).

Assey (2015) emphasized that educational systems, professional arts organizations and arts specialists should lobby for technology to be part of the arts classroom. Technological resources available to art educators may have a significant impact on their ability or desire to use technology in the art classroom (Geiger, 2009).

6. Adaptive Technology, Art and Disability

Carr (1999) stated that art activities ensure success for all students and it provides important approaches for each activity with a number of alternative paths to success. For this reason, art activities gives a lot of possibilities for new approaches. Using adaptive technology in art education or rehabilitation period is one of them. On the other hand, adaptive technology has a very important role in integrating art and disability together.

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The Kennedy Centre (2012) expressed that: The art educators should use adaptive technology to enhance learning, and to create an organized, uncluttered space that supports student learning. Organizing space for a variety of classroom activities increases the potential for students to become more active participants in their own learning. About the same issue, Young (2008) explains that adaptive technology allows students to express themselves with virtual charcoal, oil paint and the like.

Therefore, it is possible to adapt art activity to meet the needs of any student regardless of physical and medical challenges (Carr, 1999). Recently, new developments in technology especially adaptive technology can make it more strongly and effectively.

In line with this issue, Young (2008) expressed that the use of computer technology in art seemed to offer the chance of self-fulfilment for disabled artists by increasing control over artistic choices and providing for self expression with only minimal assistance required from others. Therefore, a research project confirmed these possibilities and it was clear that adult learners with disabilities could benefit from computer technology in order to have greater autonomy in the creation of their art than before.

Photograph 1: Retrieved from: http://risknfun.com/project/digitalwheelart/
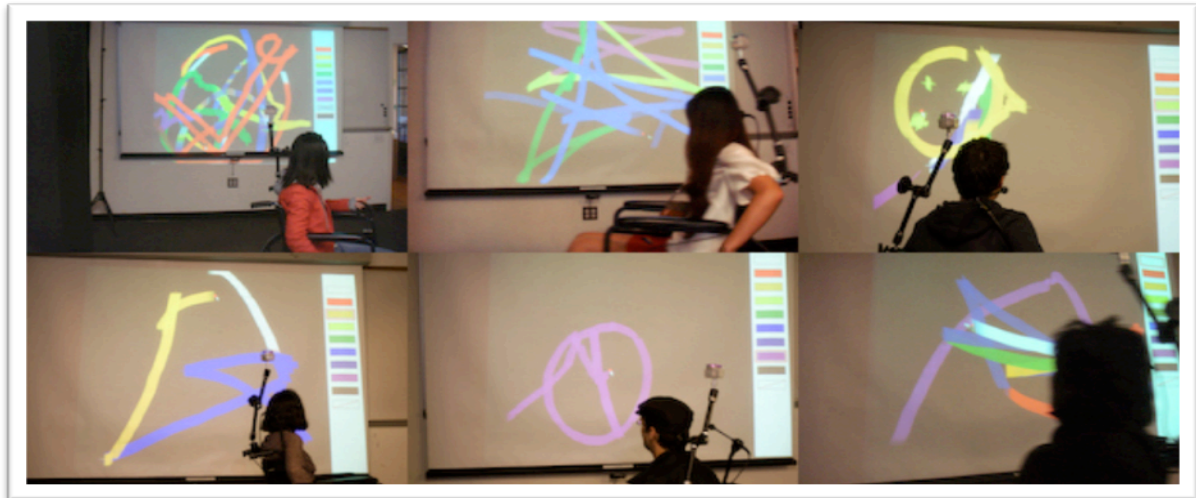
In Photograph 1; Digital Wheel Art which developed by Chung (2008) is an interactive system that helps individuals with disabilities to express themselves artistically. A user drives own wheelchair in a room while the system follows the movement of wheelchair by detecting infrared signals, and the system projects the lines onto screen in real-time. It also gives general audiences an opportunity to explore and rethink disabilities through art.

In line with this issue, Taylor (2005) stated that whatever perceptions, preconceptions and circumstances limit the drawing experience of disabled children and young people and influence the appraisal of their work, digital technology, if managed appropriately, has the power to obviate the requirement for high levels of manipulative skills and physical dexterity in the production of visual images.

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In Photograph 2; Price (2013) has explained the Leap Motion Controller with these words: we saw several months ago and what's available today comes in the form of applications. Leap has developed a demo for the controller that allows you to see on the screen what the controller sees. One demo even goes as far as to show how the Leap Motion Controller sees your hands: an astounding display that shows each individual finger and can detect even the smallest turn of your wrist.

This example shows us how technological developments change and regenerate quickly in our daily life. About this issue, Creed, Beale & Dower (2014) indicated that the Leap Motion sensor can be used to help visual artists with physical impairments. This sensor can detect mid-air finger gestures performed by users in a three dimensional space (e.g. swipe, grab, brushing motions). It can also detect a single physical pointer such as a brush, pencil, head wand, mouth stick, or other assistive devices. This technology can be particularly useful for people who have difficulty in holding traditional tools and applying pressure to a canvas.

7. Conclusion

Many researchers and scientists have examined new technological visual age in their work. They have tried to find out how the new modern visual age will affect the education systems and consequently to the art education methodology for disabled people. As a result, many research have showed that art education methodology for disabled people has affected and will effect through new technological visual age.

In this research, new research on information and communication technologies, new technologic approaches for disabled people, new visual art education approaches for disabled people and adaptive equipments for them have been evaluated. So, these research have been discussed and interrogated under these titles: what is new modern world and visual structure?, what kind of connection there is between art and technology?, what kind of connection there is

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among technology, education and disability?, what is situation of art, technology and disability in new age?, what kind of connection there is among adaptive technology, art and disability?

   As a result, it may be inferred that new modern world will be in accordance with new visual structure and this connection will continue in the future with renew. Similarly, it can be mentioned that art and technology have a deep connection and this strong structure at present time and in the future affect their relationship. However, it can be expressed that technology, education and disability are related with each other and this situation leads to adaptation to the age and bring innovations. Besides, it can be also mentioned that art, technology and disability have a very strong connection and collaboration in the new age. Also it can be expressed that adaptive technology; art and disability have an essential collaboration and this situation creates new possibilities every day.

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Photographs

Photograph 1: Retrieved from: http://risknfun.com/project/digitalwheelart/
Photograph 2: Retrieved from: http://mashable.com/2013/06/24/leap-motion-airspace/