



Research Article

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Computer aided design application in animation design

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ABSTRACT

Animation technology is a powerful platform in mass media, communication and education. Progressive developments in technological tools together with expansion of knowledge and skills have resulted in an increase in variety, as well as production speed of modern animation products. Research has shown that animation products are increasingly used in education at different levels and subject areas. Art design teaching, gradually develop its powerful function, and promote the continuous development of art design disciplines, also promote the school of art design teaching, scientific research ability and education efficiency enhances unceasingly, development to provide more professional talents for the society. Areas such as research methods, the role of supervisors, research subject trends, and presentation of outcomes are evaluated and recommendations are made to enhance the quality of training to ensure that graduates are fully qualified, and can in turn utilize animation as an educational tool in other subject areas.

Keywords: streaming

INTRODUCTION

Animation has been presented in human life in a range of forms and throughout the ages where movement and graphics as a strong factor in transferring messages have been realized for a long time. Visual art as a means of enjoyment has encouraged the scientific community to use animation as a vehicle of communication in a range of fields. Methods and skills of production have also increased the attractiveness of this art form in the domain of knowledge transfer, industry and culture, hence, causing considerable attention to be paid to structures and practical application of this field.

The invention of cinematography in 1895 presented an important turning point in production and illustration in a continuous imagery movement. Most of artistic productions by skilled craftsmen and artists, such as Walt Disney were accomplished in the field of animation. The educational programmers to address training needs in terms of knowledge, technique and artistic skills were started [1]. From beginning of the 20th Century in America and Europe and gradually moved into Asia Minor, including Iran since 1961. After a period of inclusion of animation in the subject area of art courses at the postgraduate level, the first BA course in animation started in 1982 and is considered as the foundation of animation education in Iran.

Due to market requirement for technology experts in the field in 1994, an MA degree in animation as a moving image was formed through collaboration between TarbiatModares University and All-Russian State University of Cinematography named after S. A. Gerasimov (VGIK) in Moscow, Russia. Around the same time, another Master's degree also become operational at the Art University, Iran. Consequently, the animation subject and its place in the realm of application and education was fully established in graduate studies to develop expertise, as well as research and documentation of growth in scientific and practical activities of the field [2].

THE ADVANTAGES OF COMPUTER AIDED DESIGN

1. Broaden the thinking, creative thinking

For the conventional mapping method, rely mainly on pure handmade make the traditional pure handmade, in art design course played a train the students' ability to their design work, but it is also a kind of restriction. On the one hand, because in the concrete operation process, the traditional pure manual drawing need many auxiliary tools, such as the most basic, knives, paint, paper, brush easel, etc., the use of these tools will waste too much time, program too multifarious, not easy to change, the effect is not obvious, lead to students in the practice course for no reason waste too much time and energy. In other words, this is inefficient. Environment of the work of students, on the other hand, the future is the world of computers, the traditional drawing technique in the real work is practical and decreases. Finally, student's imagination is very rich, when students have a more creative thinking, or a relatively new design ideas, due to the restrictions of handmade conditions cannot complete make their ideas into the tower of Babel, hit the enthusiasm of students learning to some extent. And the integration of computer aided design, to overcome the defects in traditional drawing technique in art design, it has strong shading, word processing, graphics editing can work, such as a series of instructions can be executed by the user to complete the drawing work, make the students from hand-painted multifarious work, and the effect is satisfactory, and can make the students imagination into reality, improve the students' learning enthusiasm. As shown in fig.1.

2. Convenient, easy to operate and control

As I said, in art and design in computer aided design, no longer need a large number of drawing tools, computer instead of all of these tools, and drawing more accuracy and speed. In addition, the computer system in a large number of functions, processes, systems and tools to provide graphics drawing with more and more convenient operation method, make the same become intelligent, make students more interested in to learn and master, and open to the students' learning process more convenient channel, so that the students can follow one's inclinations, free play. As students in the course of design in the process of operation, can through the computer aided compiling album, shear, coloring, synthesis, and other special effects, in case of error or idea change to correct the original design scheme, could no longer hotspots to start all over again, can at any time according to their own ideas and intend to modify or change. These are for traditional drawing technique. At the same time, in today's students are addicted to the Internet age, the emergence of the computer aided in the course will cause students' interests, and go into a driving force to motivate them to design the outstanding works of art.

3. Save and display more convenient

The traditional hand-painted design drawing is "one to one", that is, a copy of the original design drawing is the only, and there is only a paper, very not easy to save, there are defects such as fading, aging due to time reasons. And application of computer aided design can overcome these disadvantages, it can be design drawings stored in the disk, hard disk or a floppy disk, you can save more originals, won't because the passage of time is damaged, and it not only can be directly displayed on the computer, can also with the external output device (such as all kinds of printing machine) connection will design presented in the paper, or directly into a magic lamp and even animations. Therefore, to avoid the students in the process of concrete operation save improper careless worsen or save the design effect will be the only designs loss caused by a series of problems, and these processes will students usually learn computer knowledge and art and design, more easy to learn to use effect.

4. The design process into more objectivity

In the process of hand-painted, depended on the drawing too much the level of technology, students will inevitably because mood likes and dislikes, or to the strength and degree of art design course knowledge and performance on the design work. For example, hand to brush, he extent and strength, color matching and color hand method can make difference effect drawings, technical level difference is also for this show. And one of the important characteristics of computer aided design, is it for different levels and levels of designers, will not affect drawing effect, due to personal situation, it has in the field of drawing their own fixed model, does not vary from person to person. Such as editing, it there is a fixed template. So, a computer aided design, students will in practice homework don't show too obvious technical level differences, application of computer aided design method or the computer itself master weak small deviation, therefore, computer aided design process contains more objectivity.

COMPUTER AIDED DESIGN FLAWS

1. The dependence is too large for the Internet

In today's information age, the application of the Internet is more and more widely, increasingly rich network resources, students increasing proficiency in computer operation, of computing machine operation principle is becoming more and more understanding, this can make the students in the learning process, especially in the process of the specific design too much dependent on the network resources and form the inertia, although enthusiasm high, but insufficient cultural connotation in the process of learning of art design, grasp and apply too superficial. Students too much passion is mostly on the computer itself, used in the design of material are not original, but is downloaded

from the Internet, Work although luxuriant "eye candy", form a single, machine-made, high repetition rate, serious plagiarism, lack of personality. Although the computer aided design can help the students to imagine into reality, but also contributed to serious irrelevant to actual design ideas and do not conform to the category of art and design the design of the structure, this also is in the current art design teaching lack of talented and full of personality, which is one of the important reasons of the works.

2. The traditional teaching mode is still not been broken

In the field of art and design, the traditional teaching mode will be essential, it is the student portal and an in-depth understanding of art design have to accept, but the emerging course in computer aided design to participate in art design field, traditional teaching mode can't meet the needs of teaching. At present, the lack of a "universal" in computer aided design teaching teachers, that is, the lack of both a higher art design qualifications and rich design experience, can master and use the software in the computer aided design and skills of teachers. In actual teaching process, therefore, most teachers still use the traditional teaching method, is based on the teaching material content by chapter, theory teaching far more than the practice teaching, only in the course of lectures with some simple example, do some simple design password, and consistency is extremely poor, and many teachers regard these as just lectures, and really grasp the lack of concern for students. So that in the concrete operation on the computer aided design, not combining theory and practice, not to mention their own design ideas and thinking clearly expressed, the teaching effect is not satisfactory.

3. Too much emphasis on computer skills

For units engaged in art design, recruiting employees able to skillfully use computer to design has become one of the prerequisite, this also makes the teachers and students in the field of art and design of computer aided and the relationship between art and design produced deviation, caused serious misleading - computer technology is more important than art design idea, to make them both together, complementary relationship does not reach the designated position. Teachers in the teaching process too much emphasis on the use of computer skills, lack of artistic design basic thinking way for students, the cultivation of the innovative idea. For students, to the command of professional knowledge is not strong enough, the lack of study, a direct result of its as art students should have the quality, when designing works don't follow the art design standard and specification, as I said, just rely on computer resources together, lack of connotation, churning out, the final result is neither grasp the professional knowledge, students on the use of computer technology is not skilled and mature, is not to have insight into art design field, can only use computer simple drawing tools.

4. Lack of school teaching equipment

Over recent years various types of special art school or professional school enrolment, students have proliferated, although many schools are continually increased computer equipment, but the equipment growth far couldn't keep up with population growth rate, plus school hardware investment insufficient funds, all of these lead to the equipment gap is still quite big. Existing equipment can only meet part of the computer aided design teaching demand, for art and design the whole professional involved in the course, can't meet their needs, and not all the students in the school computer, upon completion of the design work through each way for solving the problem of the application of the computer.

ANALYTICAL APPROACH

Master's courses in Iran are of minimum two years' duration. For the period from 1994 to 2002, a total of 104 students enrolled in animation Master's courses, of which 94 completed their theses and were awarded the degree. The remaining 10 students withdrew for a variety of reasons. All 94 available theses were carefully evaluated, and for statistical analysis were classified into three main groups of technical-methodical (T-M), theoretical-educational (T-E), and case study-descriptive (C-D). Results are presented in Tab.1 and Fig.1.

Tab.1 Frequency of theses in classified subjects

Class	Frequency	%
T-M(technical-methodical)	24	25.5
T-E(theoretical-educational)	51	54.2
C-D(case study-descriptive)	19	20.3
Total	94	100

As indicated, more than half of the theses were involved with the development of theoretical-educational subjects and only around a quarter concentrated on technical innovations and operations, while the remaining 20% investigated either a specific case study or attended to descriptive aspects of the work.

In the next step, a qualitative tendency index was developed to assess how close each thesis is to the actual subject area of animation as opposed to a general area which also encompasses animation. These categories are identified as animation biased (AB) and general biased (GB). The results of analysis are shown in Tab.2 and Fig.2 in percentage terms.

Tab.2 Tendency towards specific animation subject

Class	f	AB(%)	GB(%)
(a)technical-methodical	24	40	60
(b)theoretical-educational	51	45	55
(c)casestudy-descriptive	19	30	70

CONCLUSION

This study has shown that research and investigation at the Master's level in the field of animation in Iran covers a wide area due to its rapid expansion. In addition to industrial applications, animation technology can be used as a tool for transferring information at all levels of an educational system. In the analyses presented here, it is clear that investigation in each field of animation is strongly dependent on a number of indicators. These include instruction, technological methods and individual skills and, therefore, a particular attention to compiling and presenting the outcomes helps the development and quality improvement of programmers of study, hence, knowledge-based growth.

The results here show that more than 54% of all Master's animation theses are in theoretical-educational subject areas, which supports the trend for utilization of animation in the education process.

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