Study on Development of Convergence Subjects for Software Education in Fashion Design :
Convergence Education of Western Costume History and 3D Virtual Costume Programs

Kwon Yumi, Sejong University, Korea
Kim Sook Jin[*], Sejong University, Korea

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I. Preface

As the concept of talent has been recently changing in the academic field of learning according to the change of time, educational system is also experiencing changes that provide engineering students with opportunities for art and design education, offering art and design majors for access to the learning of engineering knowledge. With a goal of fostering creative talents able to take a lead in the global market, universities are planning to develop new converged subjects with the field of computer engineering system per major so that they can be equipped with expertise in software technology along with knowledge about their major. In case this 3D virtual costume production program is selected as a subject and used for educational purposes, it may be apt to end up with teaching software handling techniques. For this reason, this study is intended to propose a convergence subject that can provide education together with knowledge about fashion so-called costume history through software.

II. 3D Educational method for western costume history using a virtual costume production program

To provide education on western costume history using a 3D virtual costume production program, a full understanding of each subject so-called software and western costume history should be needed. The convergence of these two subjects may develop in various methods according to educational objectives. The most ideal method is to complete each subject before putting the costume appearing in western costume history into trial production as an advanced subject, which improves software application capability and enables an in-depth study into western costume history.

To implement this, most of all, the computer subject makes one get to know software application technology good enough to make design as freely as needed by learning how to use tools for a 3D virtual costume production program. Besides, the subject of western costume history makes one learn about socio-cultural background, titles and applications of costume. Then, each student selects a period that he/she desires to study, picks up clothes that he/she wants to try making among the costumes in the period to study the composition of clothes and its wearing method and plan for costume patterns firsthand. Next step is to make the type of clothes while modifying design with the use of software to get a desired design to come out. Upon the completion of the clothes with the desired design, the fabric suited to the period is examined to apply fabrics such as woolen clothes, silk, cotton and flax, applying material identical to actual clothes as well as colors to complete clothes. The last stage includes providing feedback by

estimating software application capability for completed clothes, completion and accuracy of clothes.

III. Expected effects of education on western costume history using a virtual costume production program

The following show expected effects from teaching in combination of a 3D virtual costume production program and the subject of western costume history.

First of all, it is possible that students are made to attend a class in positive and active manners. The process of letting students try making any of the dresses on the data regarding western costume history enables them to learn by watching design, wearing method and color of clothes in active and close manners.

Next thing includes an additional effect of increase in learning ability possibly for a deeper understanding and study of western costume history altogether. Women in traditional western costume wear multiple layers of clothing, whereas the 3D virtual costume production program can deal with clothes wearing method, procedures and even types of underwear in detail. This can be indeed referred to as the best strength of education about western costume history using software.

In addition, it can improve students' ability to create software. 17th and 18th century costume described in western costume history different from modern costume shows not only slightly different body types from modern people but also far more complicated clothing structure than the modern times. The process involving the study of cloth patterns by figuring out the structures of these dresses and making it into a form of clothes with the use of software is also of great help in improving an ability to create software. This reproduction method can be a good method for improving practical skills that can reproduce any of costume spotted in the 3D virtual costume production program the way it is.

IV. Conclusions

Educational methods are varying according to the change of time. While attempts for the development of new subjects should be made on a continual basis, the most spotlighted word in the current era is the very 'Convergence' and 'Software education'. Thereby, the field of fashion design should also develop converged educational subjects for software education and teaching methods should be changed accordingly. When using western costume history with the use of the 3D virtual costume production program, students may turn into active attitudes towards class because they have to watch and study costume data closely to reproduce costume data they viewed only through picture data the way it is. Plus, the 3D virtual costume production program is dedicated to improving the effect of learning by watching the complicated structure of clothes and its wearing method closely. On top of this, the production of the costume in western costume history using 3D virtual methods directly by students may be of help in getting an in-depth understanding of western costume history as well as improving an ability to create software. Such development and education of convergence subjects in the major of fashion design can be referred to as a way to foster creative talents taking the lead in the globalized era.