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Postgraduate Student, **DMYTRO BIDYUK**
Khmelnyskyi National University, Ukraine
Address: 11 Instytutska St., Khmelnytskyi, 29016, Ukraine
E-mail: biduk.de@mail.ru

USING WEB-BASED TECHNOLOGIES AND TOOLS IN FUTURE CHOREOGRAPHERS' TRAINING: BRITISH EXPERIENCE

ABSTRACT

In the paper the problem of using effective web-based technologies and tools in teaching choreography in British higher education institutions has been discussed. Researches on the usage of web-based technologies and tools for practical dance courses in choreographers' professional training in British higher education institutions by such British scholars as L. Bracey, J. Buckroyd, J. Butterworth, B. Cohen, A. Green Gilbert, R. Lakes, L. Lavender, G. Morris, S. Popat, J. Smith-Autard, E. Warburton, D. Watson and others have been studied. The list of web-based technologies and tools used to improve the educational process, inspire and encourage both teachers and students to develop their critical thinking and reveal their potential has been presented. The most common of them have been characterized. They are: The Dance Designer, Wholodance, The Choreographer's Notebook, Multimodal Video Annotator and DanceForms. It has been found out that one of the possible ways how to overcome the problems while incorporating web-based technologies and tools into the traditional system of education and teaching choreography, in particular, is the balanced combination of web-technologies and tools with a participative approach to teacher-student interaction. It has been concluded that web-based technologies and tools can be categorized as motivational methods appealing to students' cognitive, emotional and behavioural engagement characterized by such attributes as innovation, easy usage and sharing, content control, motivational appeal, etc.

Key words: *web-based technologies and tools, choreographer, professional training, British experience.*

INTRODUCTION

Choreography is characterized as an art unifying physical, emotional and mental aspects of an individual. Dance implies the use of the human body as a means to express feelings in action. Dance education has faced significant content and identity changes through its history. Until recently dance has been a part of the physical education programme in many countries. Now it is recognized as an art form similar to visual arts, music and drama being equally worth studying. However, it is true that of all the art forms dance is the least recognized. The study of teaching and learning dance in higher education institutions and some aspects of choreographers' professional training in the comparative pedagogical context are important to analyze. British experience in choreographers' professional training at the universities may be useful for Ukrainian educational practice.

Dance educators are experiencing challenges and opportunities with the development of computer information technologies. At the 2008 World Dance Alliance Conference held in Australia, scholars discussed the possibilities and perspectives of using the Internet for dance education through Second Life Avatars and Multimedia Performances (Kovich, 1994).



In this paper we focus on the implementing web-based technologies and tools into the professional training of future choreographers at British universities as they have a worldwide growing tendency in education. However, when analyzing courses where web-based technologies are applied, we can conclude that the learning outcomes in these courses are cognitive strategies; learning declarative knowledge; intellectual skills. The use of web-based technologies for teaching choreography as well as practical dance courses facilitate developing students' knowledge and skills in choreography.

THE AIM OF THE STUDY

The aim of the study is to reveal the peculiarities of implementing web-based technologies and tools into the professional training of future choreographers at British universities.

THEORETICAL FRAMEWORK AND RESEARCH METHODS

Results on studying relevant scientific literature allow to state that dance education has shifted from a fixed educational setting towards a more open discourse affecting various aspects in both subject matter and pedagogical methods. Researches on comparative professional pedagogy of such Ukrainian scholars as N. Avshenyuk, N. Bidyuk, N. Mukan, N. Pazyura, A. Sbruyeva, V. Tretko and many others have contributed much to the problem raised. Certain aspects of choreographers' professional training in Great Britain and the usage of web-based technologies and tools for practical dance courses have been analyzed by such British scholars as L. Bracey, J. Buckroyd, J. Butterworth, B. Cohen, A. Green Gilbert, R. Lakes, L. Lavender, G. Morris, S. Papat, J. Smith-Autard, E. Warburton, D. Watson and others.

In our research we have used such methods as synthesis, analysis, generalization and systematization.

RESULTS

The effective implementation of web-based technologies and tools into dance education are useful for both teachers and students. Moreover, the involvement of web-based technologies and tools is considered to be a contemporary pedagogical technique positively influencing the teaching learning process in the 21st century. Modern students differ from those of previous generations as well as teaching and learning environments available today. Presently learning is seen as a process that connects information throughout the Web and requires students to know how and where to find the needed knowledge. Traditionally, dance education is still restricted to such settings as libraries or studios. Nevertheless, with the development of web-based technologies and tools dance educators are considering them as a means to extend teaching through an online "hub" where students and educators can communicate, reflect and rearrange their approaches to dancing.

The content analysis of curricula for future choreographers' professional training at British universities has shown that pedagogical practice of choreography classes consists of innovative ideas based on the development of students' critical thinking and individuality, when practical dance classes include both choreography and technique classes. However, there is little proof how these ideas can be applied to practical dance classes. J. Smith-Autard indicated that the content of dance education should be focused on the knowledge of dance subjects and stipulate for students' creativity and imagination. The scholar also presented the idea of connecting "open concepts" of movements with worldwide recognized professional dance techniques. In addition, she singled out a relevant pedagogy for dance teaching as well as the combination of problem-solving teaching approaches and direct teaching methods (Smith-Autard, 2002).

Correspondingly, A. Green Gilbert states that the volume of students' dance skills training is not sufficient enough. The scholar emphasizes the significance of developing



students' dance concepts in reference to their dance skills, too. Thus, attention should be paid to both dance problem-solving and training processes throughout creating, appreciating and performing dance.

J. Butterworth and L. Lavender have contributed much to the problem raised above. The scholars stress the need for cooperative learning within dance education by means of discussion and dialogue. Furthermore, due to new requirements for choreographers and dancers students' reflection on learning and their critical thinking developing should be taken into account (Butterworth, 2004; Lavender, 1996). Thereby, L. Lavender developed a model of critical evaluation that encourages students to observe, reflect, discuss, write, evaluate and produce recommendations on how to revise features of dance work so that students' aesthetic skills to create, review and perform dances may be developed (Lavender, 1996).

Recent studies on dance education have shown that it is necessary to take into account students' learning experiences. L. Bracy came to the conclusion that in addition to giving students external feedback, dance instructors could inspire their students to strive for their individuality and learn how to identify the feedback that their bodies provide. Such movement experience is the main objective of somatic practice in dance that may be obtained by applying different movement methods and techniques, namely, "Feldenkrais Method", "Alexander Technique", "Ideokinesis and Body-Mind Centering" and also web-based technologies and tools (Bracy, 2004).

S. Morris singled out the advantages of using semantic web-based technologies and tools, such as providing solutions in an activity where other technologies had not succeeded; simplified navigation throughout project data, using familiar notions and vocabulary; easy display of patterns within project data; self-generated handling of vast collections; easily extendible to include new data sources. The semantic web can also help dancers to identify their video collections so that one can easily find, compare and cite particular choreography elements from different dance projects to support dancers' reflective diary entries (Morris, 2012). Students and their teachers may choose what types of data they need for videos and clips due to an appropriate user interface constructed by the Ensemble team. The semantic data students and teachers settle on for each video contain a combination of the usual metadata (project title, recording date), performance types (rehearsal, performance) and venue. Each clip generates all the data with the help of its link to its source video, then extends it with special terms and spatial zones (the areas of the performance space being used).

Dancers started to upload their videos to the Ensemble project website, when the Ensemble team coded a web tool so that dancers might easily coordinate sections of each video with semantic data. However, it became obvious that even one dance project comprised more video footage than the project server was able to hold. As a result, it was decided to move video hosting to YouTube and to use privacy settings so that videos cannot be found in public search. In its turn, YouTube provided both a stable video hosting platform and its popularity. Thus, in the future students may be able to upload their own personal clips (captured directly from their smartphones) to their YouTube channels and cite them alongside the standard dance studio footage.

So, there are some new ideas on dance teaching by using web-based technologies and tools. Many scholars analyzed the application of web-based technologies and tools to dance classes and suggested the idea of developing an animated virtual learning setting to teach traditional dances. S. Popat studied the influence of dynamic websites on teaching and learning choreography in the international partnership via the Internet. He indicated that only several components are required to create the system allowing to teach or learn



dance online. Traditionally, such systems imply using Networked Virtual Environment (NVE) systems. The necessary elements include a platform or Virtual Environment needed to represent a field to teach in; virtual humans required for real participants to be properly represented in the virtual reality; a network that connects teachers and students; a tracking system enabling to accurately track all the participants' limbs. The Cyber Dance performance was the first real attempt of interactive dance with the use of such a NVE System, was afterwards repeatedly shown and included the interaction between real and autonomous virtual humans, namely, a dance sequence on stage. Unfortunately, due to the complexity of multiple real and virtual humans it was impossible to track all the real dancers on the stage (Bailey, Bachler, Buckingham Shum, Le Blanc, Papat, Rowley, Turner, 2009).

The Computer Resource Centre (CRC) in Kingston University provides their students with their own computer laboratories, technical support and recommendations. At the University there are more than 300 computer terminals for students' exclusive use. Some laboratories supply both hardware and software for particular dance courses. They are dance rehearsal studios; drama studios; music recording studios; first-class musical instruments; audio and video editing facilities, etc. (Kingston University London, 2016). While implementing both new web-based technologies and tools and traditional studio-based dance training, the curriculum offered by the University is aimed at helping students to reveal their potential in full and achieve good results in the context of the dramatically changing dance culture.

So, it is extremely important to reconsider traditional dance teaching methodology as web-based technologies and tools allow to widen dance teaching scope, offer perfect opportunities for further study and yet pose challenges for all the participants of the educational process.

The latest researches prove that web-based technologies and tools are widely used as isolated elements detached from the classroom instruction. The use of web-based technologies and tools in dance education happens to be more restricted than in other subjects. While mastering dance technique skills students are insufficiently provided with technological resources that can be used to support the knowledge obtained during the class time; for instance, an instructor may teach a fusion of Limon and Graham technique during the class, but the availability of necessary resources online is extremely limited. As a result, only a few teachers combine studio-based training and cyber stimulation.

It should be noted that in British experience the most effective web-based technologies and tools are *3D Digitisation* (dances are recreated in three dimensions and then represented in a 3D online environment); *music synchronization* (the frames generated from dancers' motions in accordance with the music frame are synchronized to enable comparing and add the rhythm to dance learning); *Web 3D Environment* (the development of the Web 3D viewer (by means of Adobe Director 8.5 Shockwave Studio) allowing to observe and handle the 3D dancers, watch dancing models, choose the points of view and the zoom levels and control the speed of the 3D animation); *Dance Designer* (a powerful new software program virtually supporting any dance discipline such as modern, hip-hop, jazz, contemporary, lyrical, classical ballet, figure skating, cheer, tap and others); *Web Services Choreography Description Language* (WS-CDL) (these are used to specifically identify the global ordering of the messages that are exchanged among the peers participating in a composite service), etc. (Karkou, Sanderson, (2001)). We believe it necessary to characterize the most common of them.

The Dance Designer provides future choreographers with a complex of easily coordinated point-click-and-drag digital tools enabling to conceive, blend, save and share



all the various segments used in their professional activity. Thus, it is aimed to economize choreographers' time and assist with all the steps of the creative process while supporting them in documenting their intellectual property. It also assists with creation, previsualization, documentation, communication and rehearsing for all dance styles as it enables saving and organizing well-developed, multilayered productions in a digital file and allowing dancers to share creative information with their colleagues and production teams. Using the up-to-date programming and combining web-based technologies and tools with effective dance teaching methods, the software enables dance teachers, choreographers, studio owners, figure skating coaches to express their individuality in motion. So, students may have a powerful tool to capture their artistic expressions and document their intellectual property as well as save their time.

The Dance Designer can also be used together with *Dance Counts* (it adds customizable counts to music); *Media Editing* (it enables easy music and video editing); *Choreo Cards™* (a database containing the information dancers need); *Choreo Notes™* (it synchronizes music and notes); *ChoreoMotion™* (that is a moving image of patterns and formations); *Storyboards* (that is print choreography, notes and staging); *Choreo Score™* (that is a multi-media dance score that synchronizes notes, music, patterns and video); *TAPlayer™ – Coming Soon* (it plays back up to four tracks of tap rhythms); *Rehearsal Tools* (it adds markers and skip to any section, changes the tempo of music during rehearsals).

Wholodance allows students to control the dance database to create new dance routines through blending, extracting and synthesizing the motion capture sequences in the database converting the raw motion capture data from three-dimensional marker position arrays to joint rotations of an inverse kinematic skeleton, and then in turn, to arrays of velocities and accelerations of all body parts separately. Students can also visualize the data as vector flow fields or particle fields that suggest the flow of motion, rather than limiting it to a virtual body. So, it can be easy for them to compare choreographic patterns and structures making use of them as building blocks for creating new original choreographies from existing choreographies with accessible tools and software platforms.

The Choreographer's Notebook provides students with an opportunity to prepare multimodal abstract of rehearsal videos during dance productions. This tool is a web-based video application enabling dancers to give instructions and feedback to the choreographers out of the formal rehearsal time. Its originality consists in its ability to provide a collaborative video-based workflow (Singh, Latulipe, Carroll, Lottridge, 2011).

Multimodal Video Annotator studies different modes of abstract and video visualization so that a more natural and easy method may be used to add notes to dynamic content. *Video Annotators for Dance Performance (Danvideo)* (Cherry, Fournier, Stevens, 2003) is a system implying semi-automatic authoring and access to dance archives and thus providing annotation methods and retrieval tools. It presupposes semantic video annotations that are based on the MPEG-7 standard. The annotator module provides dance experts with an opportunity to manually annotate the video content by means of macro and micro annotations. Macro annotations represent macro features of the video content, namely, dancers and musicians' contacts, song, background, music, tempo of dance steps, date and time of the recording, etc. Micro annotations, in their turn, represent micro features such as an order of the events, actors of the event, concepts revealed by actors, relationships of the different events, actors and concepts. *Video Traces* (Kannan, Andres, Guetl, 2010) allows to capture video directly from a camera or use previously recorded video content and then annotate it by talking and gesturing. The audio recording is made due to an external microphone that it



connected to the laptop. Users are able to change different video playback features, namely, playback speed, freeze a frame or rewind. Consequently, audio, gestures and video playback changes are overlaid on the video and preserved in a resulting “video trace”. Thus, the web-based video application can be used to analyze the recordings of students’ development and allow them to become more aware of their learning, reflect on their achievements or mistakes and plan future actions.

At Liverpool John Moores University, University College Chichester, University of Central England and University of Surrey *DanceForms* is actively used for teaching choreography. It easily shows students the nuances of a particular step or sequence. Moreover, *DanceForms* inspires students to visualize and chronicle dance steps or entire routines in an easy-to-use 3D environment; sketches out choreographic ideas using an assortment of poseable dance figures; animates single figures or large groups; saves time by mixing, matching and blending sequences from *DanceForms*’ existing libraries and palettes of dance movement, etc. So, it is aimed at developing students’ creativity via bringing their dance ideas to 3D life (Credo Interactive, 2010).

CONCLUSIONS

So, in our paper we have discussed the problem of using effective web-based technologies and tools in teaching choreography in British higher education institutions. We have presented the list of web-based technologies and tools used to improve the educational process, inspire and encourage both teachers and students to develop their critical thinking and reveal their potential. One of the possible ways how to overcome the problems while incorporating web-based technologies and tools into the traditional system of education and teaching choreography, in particular, is the balanced combination of web-technologies and tools with a participative approach to teacher-student interaction. Web-based technologies and tools can be categorized as motivational methods appealing to students’ cognitive, emotional and behavioural engagement characterized by such attributes as innovation, easy usage and sharing, content control, motivational appeal, etc.

Rather perspective for further researches we consider a study of psychopedagogical and educational potential that these technologies and tools possess and offer for teacher-student interaction.

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