The WebDANCE Project: Web Dance for All Using Advanced E-Learning Tools

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Abstract

Traditional dance has relied heavily on face-to-face kinaesthetic learning as the main means of passing the associated knowledge from one generation to another (LADD, 2001). However, this type of learning does not allow transferability of knowledge between communities and is particularly sensitive to rapid cultural changes. Even though dance remains an integral part of the educational and cultural life in Europe, traditional dance teaching resources are limited.

The WebDANCE project promotes the use of new technologies in dance education and in particular (a) the use of interactive multimedia technologies (e.g., video, 2D and 3D graphics, interactive images and text) for representing information about traditional dances (b) the use of the Internet as the learning medium. To this end WebDANCE aims to develop a platform that can be used both as (a) a web-resource for teachers and (b) a web-based explorative learning environment for students in formal (school) and informal contexts.

1   Introduction

Despite the fact that dance remains an integral part of the cultural life of European societies, the status of dance in national education systems is less prominent. A recent survey in the member states of the Council of Europe (Robinson, 2003) have shown that all national policy statements on education emphasise the significant role of the cultural dimension and the necessity of promoting the artistic and creative abilities of students. However the reality remains that in all national education systems, there is positive emphasis on academic education whilst art and culture are not seen yet as priorities in the long-term development of national education curricula.

With respect to dance education, teaching of traditional dances forms part of most the school curricula in many European countries under the remit of arts or physical education (Europe of Cultural Co-operation, 2002). Existing teaching aids are limited to books and video recordings, which despite their wide use provide only a fragmented picture of the dance experience, focusing either on the cultural or the movement aspects of the dance. Limited teaching resources carry the danger of dance either being taught as a set of steps/movements devoid of cultural meaning or as a quaint art form that does not retain dynamic social involvement.

Currently, the Internet and the World-Wide-Web are increasingly being used as a source of information and as a learning medium, in formal and informal contexts. Web-based applications in cultural education focus mainly on subjects that involve development of cognitive skills, such as history and literature and to a less extent the visual arts. Available information on the Web relevant to dance is more or less

unstructured (in the form of collections of HTML pages, PDF documents, MS Word documents or as MS PowerPoint presentations). As such, it is hard to access and requires additional processing before it can be used by teachers and/or students. The objective of the WebDANCE project is the development of a web platform that will bypass these problems by offering a structured set of learning tools based on a goal-driven learning framework.

From a methodological perspective, the development of a web platform for assisting traditional dance education requires (a) to identify the abstract concepts that define traditional dance; (b) to define a learning framework for creating appropriate dance lessons using the above dance concepts; and (c) to develop the technological solution for documenting traditional dances and creating associated dance lessons to be used by teachers and students over the internet. The above is the subject matter of this paper.

2   A Framework for conceptualising traditional dance

There are a number of terms that are closely linked with the dance of the people, such as traditional and folk dancing, folkloric dance, ethnic or national, popular and social, historical or early dance. However, there is no agreement amongst scholars on what each of these terms stands for. The picture becomes even more complicated by the fact that in each European country different terms predominate with similar or often with very different meanings. In WebDANCE we use the term **'traditional dance'** as defined in Raftis, (1993) "Dances that have evolved spontaneously from everyday activities and are informally passed from one generation to another".

In search of a conceptual framework for describing and documenting traditional dance we started from existing systems and methodologies that have been developed from studying European and non-European dance traditions. The majority of these studies describe traditional dance in terms of: (i) structure and (ii) function or in other words, (i) movement and (ii) context (Royce 1977, Zographou 1989, Sermpezis and Goulimaris 2001). Within these broad categories a number of 'smaller' distinguishing features have been identified such as: formation, type of movement, direction of movement steps, dynamics, age and sex of dancers, costumes or cloths, social function, etc.

However, review of the relevant concepts revealed that the division between movement and context was not as clear-cut as initially perceived. Indeed, contextual aspects such as the sex and age of the dancers can determine the type of movement used within the dance. Similarly costumes and props may be an important component of the movement of the dance either as aspects that restrict or further articulate movement.

Thus, we can speak of three types of dance concepts: concepts that focus either on the movement components of the dance, or the dance's context or both. We refer to these three categories as: *Dance Activity*, *Dance Tradition* and *Dance Event*, respectively. Each of these three categories is further divided into a number of sub-concepts [1] as shown in Table 1.

Table 1: The conceptual model of traditional dance

Dance Activity	*Broad Movement Characteristics*	Body part/s, characteristic body posture/s, degree of energy and/or dynamics, rhythm, characteristic movement, characteristic gestures, characteristic vocalisations, props integrated within the dance
	Individual Movement	Pathways and floor patterns, basic movement, variations, repetitions and/or phrasing
	Couple/Pair/Group Movement	Number of participants, type of connection, pathways and floor patterns, basic movement, variations, distinctive movements amongst dancers, repetitions and/or phrasing
Dance Event	*Music*	Meter and melody, song/spoken words, instruments, variations, relationship of music/song/spoken words to movement
	Costume	Common costume components, distinctive costume components, relationship of costume to movement, relationship of costume to everyday cloths
	Role of Dancers	Internal structure and hierarchy, procedures for training new dancers, status of dancers in the community
	Role of Musicians	Number of musicians, position of musicians in space in relation to dancers, status of musicians among dancers
	Role of Audience	Composition of audience, position of audience in space in relation to dancers, behaviour of audience
	Other Roles	Gender roles, familial/age roles, other roles
	Immediate Context	Occasion, time, place, other activities, myths/stories
Dance Tradition	*Wider Context*	Cultural context, historical context, societal context

Finally, another broad category has also been identified which refers to indexing documented dances. This category consists of concepts extracted from the broad categories of dance activity, event and tradition as follows:

Dance Indexing Field

Name of the dance

Geographical location (dance tradition)
Type of dance (e.g., solo, couple/pair, group) (dance activity)
Gender of dancers (dance event)
Age of dancers (dance event)
Function (dance event)

3   The WebDANCE Learning Framework

The discussion so far has concentrated on the requirements of a conceptual framework for developing knowledge about traditional dance. Orthogonal to this view is the usage perspective that is, "how can we systematically use this knowledge in order to assist learning of traditional dances?"

To this end, WebDANCE adopts a goal-based approach whereby dance e-learning is based on the notion of goal-based scenarios (Schank, 1992). This approach lies on the premise that "when students know where they are going, it helps them focus on learning the skills that will help them get there". In this sense, a goal serves as a motivator for learning and being involved with the whole teaching process.

In particular, teaching sessions in WebDANCE are structured as a series of scenarios, each involving the pursuit of a clear, concrete goal (e.g., learning to dance in specific occasions like weddings, learning to present the context of traditional dances in the school journal/newspaper, learning to sing traditional songs accompanying their dance, etc.), through a set of activities designed to teach a target set of skills. Performing the associated activities in turn requires access to specific information about the traditional dances. In this way, students engage with an exciting 'game' that is carefully structured to focus their attention on the issues the teacher wish them to learn about during a teaching session. In this process, the role of the teacher is to provide students with feedback, to answer questions that arise when students attempt to perform the given activities and to act as mentors.

Scenarios may focus on sensory/experiential learning, that advocates the active participation in dance activities (e.g., development of dance-specific skills) or cognitive learning that introduces the significance of knowledge and the value of dance appreciation (e.g., acquire knowledge of dance functions, develop evaluative/appreciative skills).

For example, a goal-based scenario could be the design of a TV program about the history of local traditional dances or a festival where elderly dance local traditional dances. This scenario involves learning skills that are necessary in order to understand elements of dance tradition. For the accomplishment of this scenario, students can work in teams and should use relevant information (e.g., videos and photographs of the local festival, texts about the local history, etc.), whilst the teacher has a guiding and mentoring role.

The intent of this goal-based scenario is to provide motivation and a focus on acting rather than memorizing facts. In this way, what is an initially passive idea, e.g. to acquire historical and social information about dance, is driven into an active experience.

From a methodological perspective the learning 'cycle' combines the following processes (see Figure 1): setting of learning goals, identification of educational activities, performing of educational activities using associated information and evaluation of learning outcomes.
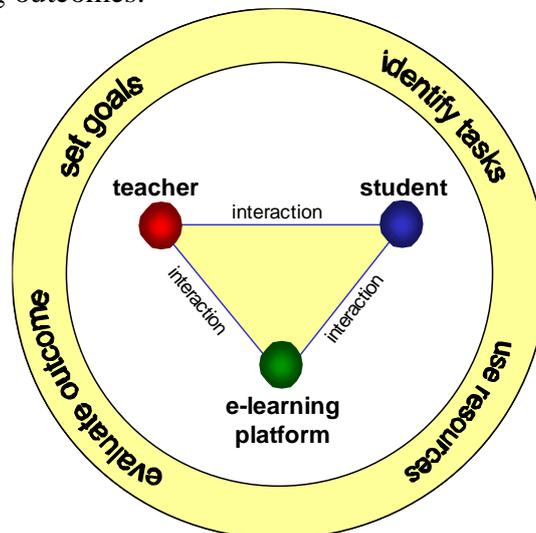

Figure 1: The goal-based scenario approach

As shown in Figure 1, the e-learning platform enters the equation as another important factor, providing access to information on traditional dances, as well as enabling the performance of educational activities (e.g., offering appropriate tools for searching and retrieving information, for visualizing dance concepts, or for evaluating one's progress in terms of multiple choice or true/false questions).

4   Technical Implementation: The `WebDANCE` platform

The `WebDANCE` platform integrates the traditional dance conceptual model introduced in section 2 and the `WebDANCE` e-learning framework described in section 3. The overall system architecture is shown in Figure 2.

As shown in Figure 2, the `WebDANCE` platform provides a mechanism for storing and retrieving data about traditional dances in different formats (text, image, audio, graphics, video), based on the `WebDANCE` dance conceptual model described in section 2. *Dance experts* can enter dance data electronically, using an appropriate dance documentation web form.
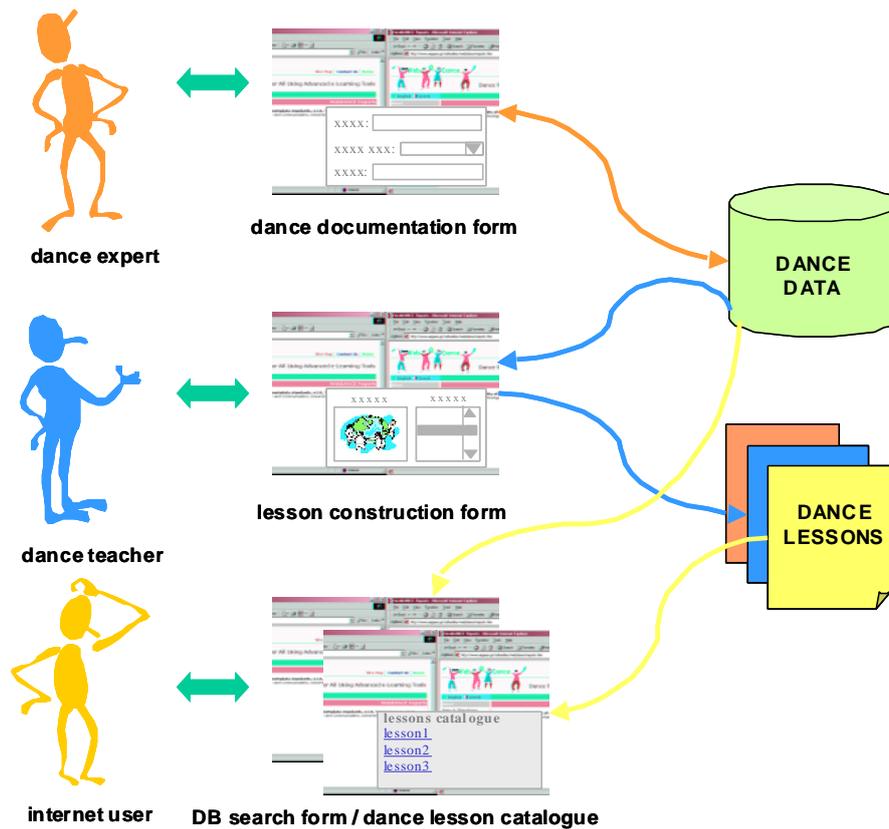
Figure 2: Technical implementation of the WebDANCE platform

The stored data can be used by *dance teachers,* providing useful resources that can be incorporated in their teaching. In particular, dance data can be combined and used in several ways depending on the teaching methodology followed and the specific learning goals that one wishes to achieve. For example, when a holistic approach is taken, then information about a whole dance (e.g. in the form of a video clip of the dance) may be used. Alternatively, when an analytical approach is preferred then the step-by-step analysis of the dance (e.g. using an interactive 3D animation tool) will be more appropriate. This combination of dance data based on the teaching methodology together with a description of how this information may be used in an educational context, forms a 'dance lesson'.

The WebDANCE platform enables dance teachers to construct their own lessons based on their preferred methodology and objectives and to consequently combine different dance lessons, thus assisting them to create their own 'dance teaching scenarios' and incorporate them in the web-learning environment. In particular, dance teachers can use the dance lesson web form, in order to (a) select a specific dance and (b) select the appropriate dance concepts/data that he/she can use in the dance lesson.

Finally, *internet users* visiting the WebDANCE website (e.g., researchers or other groups of users interested in traditional dance), are able to make inquiries in order to retrieve and find out information about the traditional dances stored in the WebDANCE platform. In particular, users are able to view all/or part of the description of a specific dance by choosing from a list of available dances, or they may wish to locate groups of dances sharing similar indexing criteria (e.g., geographical location, type of dance, function, etc). In addition, Internet users are able to access the dance lessons already

created by the `WebDANCE` partners. Such lessons are accessible through an appropriate lessons catalogue, including links pointing to individual dance lessons.

5 Summary - Conclusions

The `WebDANCE` project involves the study of traditional dance teaching and the development of appropriate e-learning tools to be used in formal and informal contexts. Currently, a prototype version of the `WebDANCE` platform is under development using open source software. In order to test the appropriateness and efficiency of the proposed methodological framework and technological solution, the prototype version will be put in use in two pilot secondary schools in Greece and the UK using information about traditional Greek and English dances. The results of this pilot usage will feed into the implementation of the full version of the `WebDANCE` platform.

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