



METHODOLOGY OF USING AUDIO-VISUAL PRESENTATIONS IN STUDYING AND PRACTICING THE TECHNOLOGY OF WORK WITH BUSINESS PROGRAM APPLICATIONS

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Abstract: Modern business program applications (BPA) have assumed growingly complex functionality due to ever growing demands for information systems in enterprises. There is an acute problem of how to train direct users – employees, in operating such applications in the shortest time possible, and at minimum cost for the enterprise. Similar problems also arise in the transfer of knowledge to students of professional studies, learning about the possibilities and work technology of BPA. To that purpose the authors of this paper has suggested a teaching method for the training of BPA users which is focused on audio-visual (AV) presentation applications as a part of the process for providing actual and potential users of the BPA with knowledge and practice. In this paper the authors suggests the new teaching method in the training of the existing and potential BPA users for a successful implementation of the new BPA in the modern enterprises, or in education of students in ICT. The modern ICT ensures the creation of quality AV presentations and an easy application of high-quality AV presentations of the BPA work technology in education. In this paper the authors propose a worked out and already applied teaching method in eight steps, which is in line with the recommendations provided in the relevant literature. The authors of this paper refer to the results of their researche into the application of AV presentation of the BPA work technology. The first relates to the evaluation of AV presentations application of concrete BPA in two enterprises: a standard trading-manufacturing enterprise (2008), and a specialized chain of N restaurants (2008/2009). The second research relates to the application of AV presentations as part of the teaching process in professional study during the year 2009/2010. Research was conducted on two equal groups of students (300 all together). One group had a chance to attend classical exercises in a computer laboratory and the other did not attend standard exercises on computers and the only things available to them in learning were AV materials and online courses through e-learning system, commonly accessible to all students. After the online research 15% of students (N=46) responded to the anonymous online survey and according to the results, use of video material add to the quality of online teaching and individual learning. Results suggest that use of AV materials is extremely helpful, especially in the conditions of self-education and unavailability of 'live' laboratory exercises in real time.



Keywords: Business program applications (BPA), technology of BPA operation, multimedia systems, audio-visual presentations (AV), methodology of training BPA users, educational video.

1. Introduction

The functionality of modern business program applications (BPA) is growingly complex given to the ever more complex requirements for information systems in enterprises. There is an acute problem of how to train in the shortest time and at a minimum cost for the actual users – employees of an enterprise to work with such applications. A similar problem exists in the teaching of students of professional studies whose goal is to acquire knowledge about the possibilities and the technology of work with the BPA. In that sense the authors of this paper suggests a methodology of training of BPA users that is based on their own practice in teaching the BPA and its implementation in actual enterprises. This methodology is focused on audio-visual (AV) presentation as part of the process of learning and training of actual or potential BPA users.

2. Standard methods of teaching and training BPA users

Practice shows that standard methods of direct group presentation of BPA operation to new users, provided by manufacturers of applications, have proven inefficient for a number of reasons: there is never enough time, the human resources departments are short of presenters, the chances to organize several live presentations are limited, adoption of new knowledge of and skills in the possibilities and technology of the work with new applications goes slowly, employees are usually not motivated because of their everyday workload, or they are frustrated by the introduction of new information technology, etc. As a consequence, implementation of new business applications unexpectedly takes much more time than planned, there are many errors in business data when they are being transferred into databases, costs get higher, users are frustrated and discontent, etc. In conclusion, the implementation of the new methodology of training of the actual and potential BPA users is imperative if we wish to raise the quality of implementation of the new BPA of modern enterprises to a higher level, simplify and optimize engagement of new employees – BPA users in the information system of enterprises, and make this process interesting, less stressful and safer.

3. Designing AV presentations of BPA work technology

Much attention has been paid to the design of AV presentation in terms of the possibilities of the modern ICT [1],[2],[3]. There are some high quality tools, such as Camtasia Studio [4], BB FlashBack, Demobuilder, Adobe Captivate 4, and others, which make the design of high-quality AV presentations possible. It is important that they are designed by professionals who have detailed knowledge of the work technology of application, and that they provide concrete examples and clear explanations that will not leave a future user in any doubt. The system of AV presentation must be organized on modular principle, so that it systematically leads the user to the sequence of a real business process that is supported by the application.



The design of AV presentation of how the BPA works is not a simple task, and it has to be resolved from the standpoint of the user of AV material. This means that AV material must be filmed in the fashion that it simulates a real, live presentation of the BPA to the users, and it should be able to attract and keep their attention. In that process all technical and information-related details of the application (how to start certain function and the like) is not so important. What is really important is that the presenter (the person who films AV material) identifies himself with the real situation of live presentation and that he meticulously establishes relation between the functionality of the application module and the concrete segments of the business process and thus forms an AV recording that has two functions: provide instructions about the operative use of certain BPA module and provide information about the core of the business process that is supported by that particular module. It is desirable that in his audio recording the presenter also provide brief comments on the practical aspects of the application of BPA module supported by concrete examples, which will break monotony of the presentation and step up adoption of knowledge and the level of skill needed to implement the BPA.

4. Methodology of use of AV presentation in learning and training in BPA work technology

The use of quality AV presentations of the application work technology provides a controlled group and individual approach to users, and also testing of acquired knowledge and skills. In this paper authors suggest an 8-step methodology that has been elaborated and applied in practice. In addition, it is in agreement with the recommendations from the relevant literature [5],[6] and ensures quality knowledge and skills that any potential user needs to be able to work with the BPA (students, employees, etc.).

The following methodology is suggested below:

- 1) To design AV presentation of the work of application using modules that support certain business processes (a task for manufacturers of application and lecturers;
- 2) To install AV presentation in the business network of the enterprise – educational institution, and to make sure it is accessible to all potential users for their individual use;
- 3) To install a demo version of the application on the business network and to make sure it is accessible to all potential users;
- 4) To organize supervised audio-visual trainings of users by using AV presentations in small groups using module of application that support the working domain of users, on which users can ask everything they do not understand;
- 5) After audio-visual training to proceed with individual training by using demo installation of the application on the business network;
- 6) At the beginning of the next audio-visual group training next to check the level of knowledge and skills, give explanation to all unclear issues, and proceed with training in the next application module;
- 7) During audio-visual trainings organized by the enterprise that prepares for introduction of applications, or by the teacher of the professional studies, questions are directed to the application manufacturer/teacher, who then provides prompt answers before the next AV training;
- 8) Steps 4, 5, 6 and 7 should be repeated until all members of the group are completely familiar with the technology of work with the application.



When the application is implemented into a concrete business system, the procedure described above must be carried out before the employment of the operative work in the business application system, and this must be done over a long period (several weeks or months), so as to ensure that the operative use of the application in real work processes can start whenever necessary and without any delay.

5. Research of the practical use of AV presentations of the BPA work technology

The authors of this paper refer to the results of their previous two researches of the use of AV presentations of the BPA work technology. The first research relates to the assessment of the use of AV presentations of concrete BPAs [7] in the process of implementation of new applications in three specific enterprises: standard trading-manufacturing enterprises (2008, 2010), and a specialized enterprise consisting of n-number of restaurants (2008/2009). The abovementioned methodology and implementation of applications was successfully completed in both cases, and the use of AV presentation was positively evaluated.

The second research was about the use of AV presentations as part of the teaching process in the professional studies (University of Zagreb, Faculty of Organization and Informatics: Study: Use of Information Technology in Business, Course: Business Program Applications in Use – 2009/2010).

Some 300 students participated in the teaching process in the professional studies in 2009/2010. The first group that numbered about 50% of students had a chance to attend classical exercises on computers with an option to implement business applications in live, and use AV materials. The second group consisted of students from the centres that did not attend standard exercises on computers and the only things available to them in learning how to work with business applications were AV materials and online courses through e-learning - Moodle, commonly accessible to all students. In order to receive a feedback information on the use and effects of AV presentation, a questionnaire with 16 close-type questions was handed out. After the online research conducted within a closed system of Moodle, 15% of students (N=46) responded to the anonymous online survey. The students who responded to the survey had attended the 2009/2010 course and as a rule, they passed the subsequent exam (+90%).

The results of the statistical analysis of the responses provided by the students are given in the graphic presentations below. As regards initial questions relating to the specific features of the group, the course attendants were predominantly male students (76%), and around one quarter of female students (24%). The mentioned group consisted of predominantly full-time students (57%), whereas those who studied and worked made 43% (part-time students), see Fig. 1.a) and b).

Gender

Employed

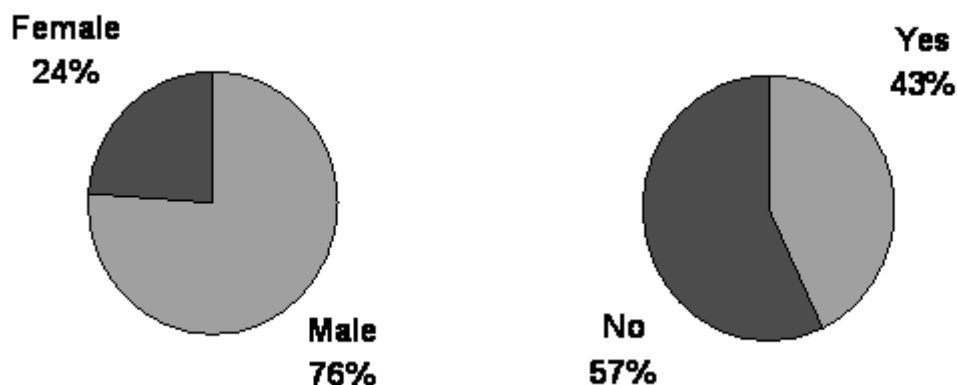


Figure 1. a) Gender b) Employment structure of survey sample

Average age of the structure sample was 22. The sample included many employed students, which is quite common considering that those are professional studies, and the share of female students is not surprising given that the studies deal with applied business informatics.

Further into the survey the students were asked if they attended standard exercises on computers or they only had a chance to use AV presentations and online contents of the course, see Fig. 2. a). Fig. 2.b) shows percentage of attendants who were using audio-visual materials during the course.

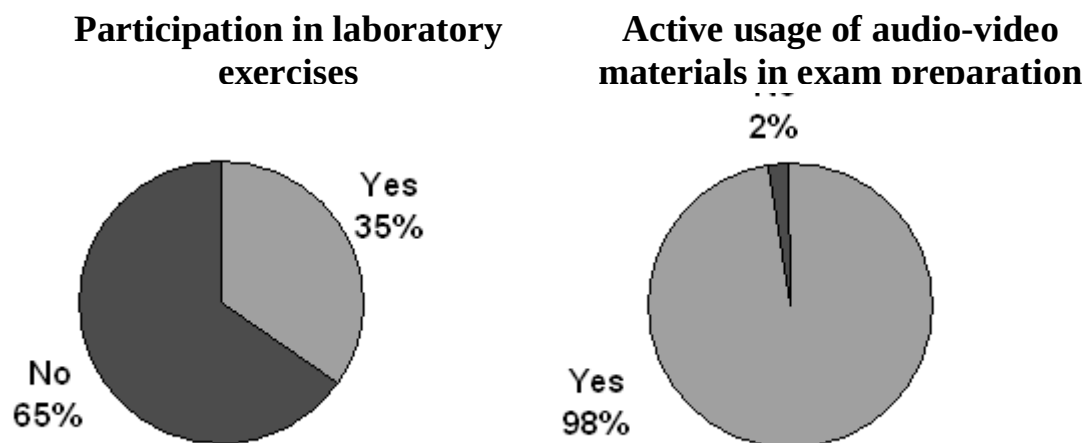


Figure 2. a) Participation in lab exercises b) Active usage of audio-video materials

The use of these materials, i.e. assessment of their effectiveness in the preparations for exam is given in Fig. 3.

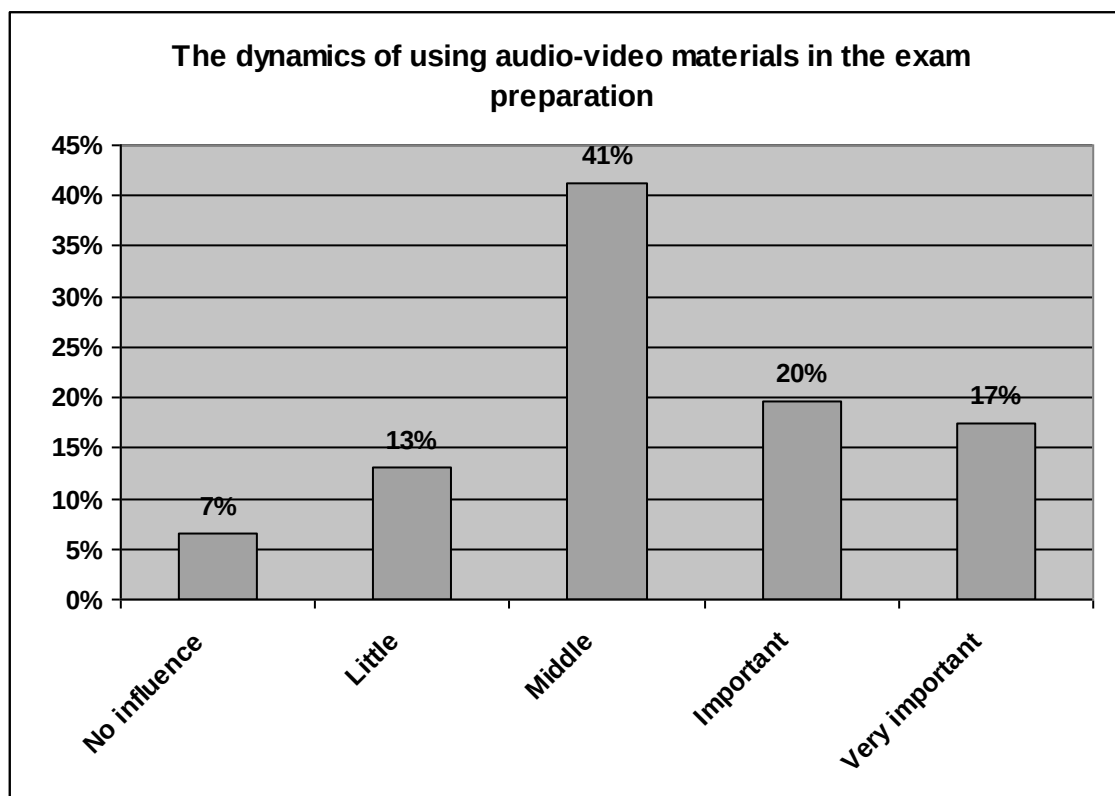


Figure 3. The dynamics of using audio-video materials in the exam preparation

Taking into account Fig. 2.b), the data given in Fig. 3. indicate high percentage of the use of AV presentations, mainly with average to high intensity. The responses to the questions that followed indicate that a large number of students (~40%) deem AV materials useful or very useful in acquiring knowledge of and skills in the BPA. As many as 35% of respondents felt that AV materials significantly or very significantly improved their perception and sped up adoption of knowledge. Over 91% of respondents positively assessed the effects of AV presentations on their knowledge and skills in the practical implementation during laboratory exercises.

According to those results and the researches conducted so far [1], [2], which show that the use of video material add to the quality of online teaching and individual learning, we deem the use of AV materials extremely helpful, especially so in the conditions of self-education and unavailability of 'live' laboratory exercises in real time. Given the satisfaction with and dynamics of the use of AV materials, we think it is a good way of the transfer of practical knowledge and skills, especially in the teaching of future experts in informatics at professional studies.

6. Conclusion

Based on this paper and practical researches conducted by its authors, it can be concluded that defining a methodology of the use of AV presentations of complex business applications is absolutely necessary, and that AV presentation of the BPA is a modern and quality means that can be applied in the practical field of business systems and the field of education alike.



In terms of their own information systems and the BPAs that they currently use, the complex business systems are more and more demanding, and growingly aware that the functionality of their information systems and BPAs give them advantage over similar business systems. There is a great number of BPA system is available for practical use and they are essentially diverse in terms of the technology in which they were developed and the installed features that provide support to business processes. A relatively extensive fluctuation of employees in the dynamic business processes and also the complexity of the BPA system in use, demand new methods and techniques from a user's learning and training. These methods are expected to shorten the time required to introduce new BPAs and new users into the existing BPAs, reduce the training to an individual level, cut down the costs of introduction and increase the safety and stability of information systems. Another problem is the training of students at professional studies in operative work on concrete BPA systems, since business systems expect them to acquire acceptable level of skills that would not require additional time and costs of training for direct inclusion into the work with BPA systems.

In view of the above, the described methodology suggested by the authors of this paper that is based of their own practical experience in the design of AV presentations of the operation of BPA and their implementation in the teaching process and in the process of introduction of new BPAs into the real business processes, should become a standard procedure in the process of group and individual training of the users of complex applications, as a guarantee of successful implementation of the BPA.

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