

THE USE OF THE DBD (DIGITAL BOOK DISK) FOR EFFECTIVE TEACHING IN HISTORY

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1 INTRODUCTION

The primary significance and purpose of History Education is to provide present day individuals with 'experience in a nutshell' and to assist these individuals to understand the complexity of the present world. To serve this role, History Education depends on information transfer about yesterday. Therefore, it is important to take cognisance of the development of communication, and particularly the ICT-revolution, that is characterising the daily lives of modern individuals. This paper will introduce the DBD (digital book disk) as affordable and robust electronic media to integrate the different communication genres and thus enriched the reporting on the history, the days of the past. This will enhance the relevancy of and meaningful learning in History Education in present day schools.

2 CHARACTERISTICS OF EDUCATION

2.1 Education and the education system

Education can basically be defined as the planned activities of educators to support learners to acquire the required competencies (knowledge, skills and attitudes) to prepare themselves for their different roles in life (Steyn, Steyn, De Waal & Wolhuter, 2002: par 2.3.2).

The education system is generally accepted as the major vehicle to distribute effective, organised education throughout a particular country. Therefore, the primary task of the education system is to provide in the real education needs of the inhabitants of a particular country (Insert 1).

2.2 The traditional view about education

Education is traditionally viewed as the face-to-face interaction between the educator and the learner. During this interaction the educators teach/support the learners regarding the acquisition of the required outcomes. The educator provides the learning aims and the learning materials and, in the class, provides the context,

explains the new information, provides information not in the learning material and provides opportunities for problem solving and re-inforcement (Insert 2). Education is traditionally viewed as teacher directed, linear, sequential activities, starting at the provisioning of the learning material, followed by the class meeting and ending at assessment (Insert 3). Transfer of information occurs through the spoken and the written word.

2.3 The modern view about education

According to modern views, education is provided in a learning environment that does not function linearly. Teaching and learning is not a linear activity, but is rather a self-guided tour at the hand of a road map (study guide) and a compass (the different types of support). Three main elements in the design of relevant learning activities are the learning sources, the learning tasks and the support mechanisms. Learners do not only interact with the educator but the interaction is multi-dimensional and with several sources, such as the educator, peer groups, experts and different types of expert information (Insert 4).

2.4 Modern education and communication

According to Rossouw (2006) the developments in the history of mankind can also be illustrated by the history of communication. Communication developed from an era where only the logosphere was used, to the second era when the logosphere and the graphosphere were used to the present era characterised by the use of the logosphere, the graphosphere and the videosphere (Insert 5).

One of the primary prerequisites for effective teaching and learning is quality communication. The quality of communication used for the transfer of (new) information will co-determine the success of modern education. Therefore, it is of the utmost importance to use and integrate the modern types of communication in order to realise the modern way of effective History Education.

3 THE DIGITAL BOOK DISK (DBD) FOR INFORMATION TRANSFER IN HISTORY EDUCATION

3.1 Introduction

The integration of the three types of communication, namely the spoken word, the written word and the virtual hypermedia, is generally called e-communication. The computer, the internet and e-books are presently accepted as the primary mediums for e-communication. However, the computer infrastructure required for the use of e-communication is expensive, fragile, sensitive to be infected by viruses and the computer programs used are in constant change. These last mentioned obstacles are the reason why a discussant from the Chicago University, USA, stated at the Conference of the Book (Oxford, September 2005) that the e-book won't be generally accepted before the 'paper-back version' of the e-book is not developed.

3.2 Features of the DBD

The DBD is an e-book on DVD-basis to be used on a television set. Because of the fact that television and the DVD is almost common property in the world and also in South Africa, even in the squatter camps where electricity, television and DVD-players are commonly available (Insert 6), the DBD can perhaps be regarded as the paper-back version of the e-book. Because the DBD is on DVD-basis of which the underlying programming did not changes often, the DBD can be shelved for longer periods than a CD, which use is limited because of ever-changing computer programmes. The DVD-basis is also not sensitive to computer viruses. The DBD can be read by means of any DVD-player on any television. However, the use of portable DVD-players is preferred (Insert 7).

The text

The DBD is text-based which implies that the text forms the backbone of the DBD. The text on e-material should be different than on paper. It should be short and focus on the core of what one wishes to transfer. Differently than on paper, one does not explain or argue in the text. That is being done by means of the different types inserts. The length of pages on the DBD is short and paragraphs should preferably not skip over to the next page. Therefore, one has to write in paragraphs consisting of not more than 120 words. The text is enriched or explained by means of several types of inserts. The individual inserts can be one of the following: text, photos, animations, graphs, tables, power points and video's.

The inserts

Different types of inserts can be used to further illustrate, demonstrate, explain and enrich what was written in the text. The following are typical examples of inserts:

☐ **Text inserts**

Because the text, as backbone of the DBD, should be concise and one-dimensional, further explanations can be provided in text format (Insert 8).

☐ **Photo inserts**

The expression is: “A photo is as good as a thousand words”. Photo’s can be used in different cases, for example, to explain and illustrate the structure of an unknown building in a foreign country or the characteristics of a rare painting (Insert 9).

☐ **Animation inserts**

The animation inserts are very powerful tools to illustrate and explain the functioning of real life objects (Insert 10).

☐ **Video inserts**

The video inserts are also powerful tools to illustrate or explain or give more information about a (for readers) unknown object of real life situation that occurred. Another advantage of videos is that they can be rewind by the viewers. The video clips should not be too long and should really relate to the intended viewer market. The video inserts can be broadly divided in two types, namely the teaching video and the information video.

- The teaching video refers to specific video’s manufactured to assist learners to reach the learning outcomes. The teaching videos can be in the format of single conversations, dual conversations or multi-conversations. The single conversation is usually used when the teacher or lecturer teaches. In this case he/she can use the power point or document camera during the presentation, similarly to what he/she would has done during a class presentation (Insert 11). The dual conversation can be use in a situation where the teacher explains a particular topic to a learner (Insert 12). The multi-conversation can be use to provide for a situation where more than two experts, for example, discuss a particular issue (Insert 13).

- The information video refers to 'general' videos, obtained from, for example, as a clip from a television news programme (Insert 14), or specific manufactured videos (Insert 15). These videos usually explain or illustrate real life situations or objects. The real advantage of these videos is that one can now really link learning material with real life applications.

Important

It is important to continuously remember that the different types of inserts serve a particular aim, namely to add extra information and to enrich the learning material of the learners. Therefore, the inserts should be wisely chosen, to be part of the backbone text of the DBD, and that each insert effectively fulfils its particular role.

4 PRE-REQUISITES REGARDING THE COMPOSITIONING OF THE DBD

As result of the completed and running research regarding the application of the DBD in teaching (cf. Golightly, 2006; De Souza, Richter & Nel, 2006) as well as from the development work of the DBD, the following pre-requisites for the compositioning of the DBD is clear:

- The contents of the text as well as the inserts should clearly relate to the level of development and particular interests of the target group.
- Text as well as inserts should be concise of length and contents and focus on the aim of the DBD. For example, a video insert should not be longer than 5 minutes. If a longer video insert is required, it is better to divide it into smaller clips and links it to different parts of closely related text.

- The technology should be user friendly and should operate without hitches.
- The outlay of the DBD should also relate to the needs and general preferences of the target group. Learners in the foundation phase prefer, for example, a different kind of letter font, back ground colour and lay out of the pages and also prefer a different kind of humour in the videos.
- Inserts of real life seems to be preferred and have more effect (similar to reality TV) than, for example, videos that are formally video-taped in a studio. However, the aim of the DBD will determine the type of inserts.
- It is important to vary the type of inserts used on a particular DBD.

5 THE DBD AND MEANINGFUL LEARNING

It must continuously be remembered that the DBD is an *e-book*, and not a computer document. Therefore, the DBD is not in the same sense interactive as the computer programmes. The DBD also do not replaces the paper-based book (Insert 16), but fills a unique niche, namely to provide on the same basis (the DVD-disk) a concise and enriched transfer of information. Particularly relevant for teaching it provides also for the guidance to learners regarding their responsibility to learn the particular contents in order to acquire the relevant competences.

The research results, available at this point in time, on the effectivity of the DBD regarding meaningful learning clearly supported the relevant literature on the influence of multimedia on meaningful learning (cf Mayer, 2001). The research indicates that the DBD, as multimedia source, increase the quality of (verbal and visual) information transfer and promotes the retention of the information (Insert 17).

The use of the DBD also supports the principles of the constructivist theory on learning. It can be summarised as follows (cf. Schunk, 1996: 208; Ram, 1996: 89; Ertmer & Newby, 1996: 1-24):

- The DBD supports the individual learners to develop their own concepts based on their pre-knowledge/precognition (voorkennis?) and new information.

- The learners can better manage their own learning because of the availability of the rich information as well as the guidance on the DBD by the educator.
- The autonomy of the learners is developed because they can scroll through the DBD and read/view as they wish.
- The use of the DBD supports the usage of alternative sources of information.
- The learning content is more relevant to real life situations than information only on paper-based learning material, because of the fact that, for example, video clips can be used.

6 CONCLUSION

History teaching should be alive in order to support the value of History Education. Therefore, it is of importance that the information transfer includes all the types of

present day communication. The DBD fills this role and should be used to enrich History Education and at the same time supports meaningful education.

SOURCES

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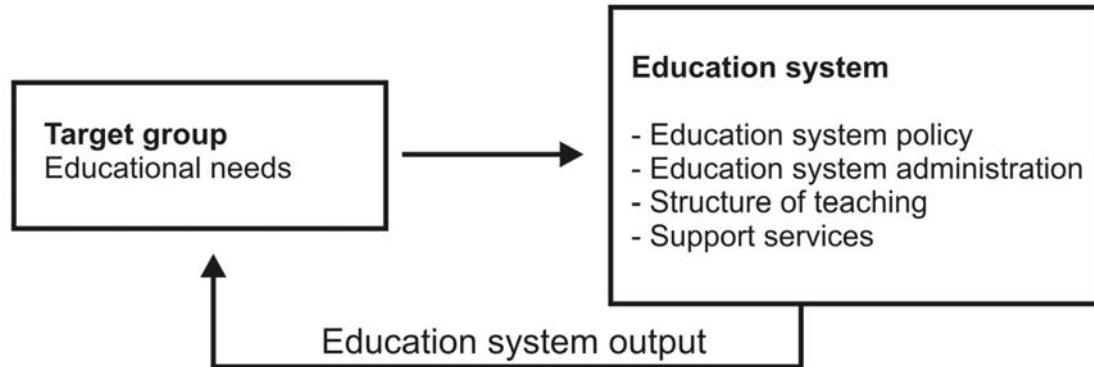
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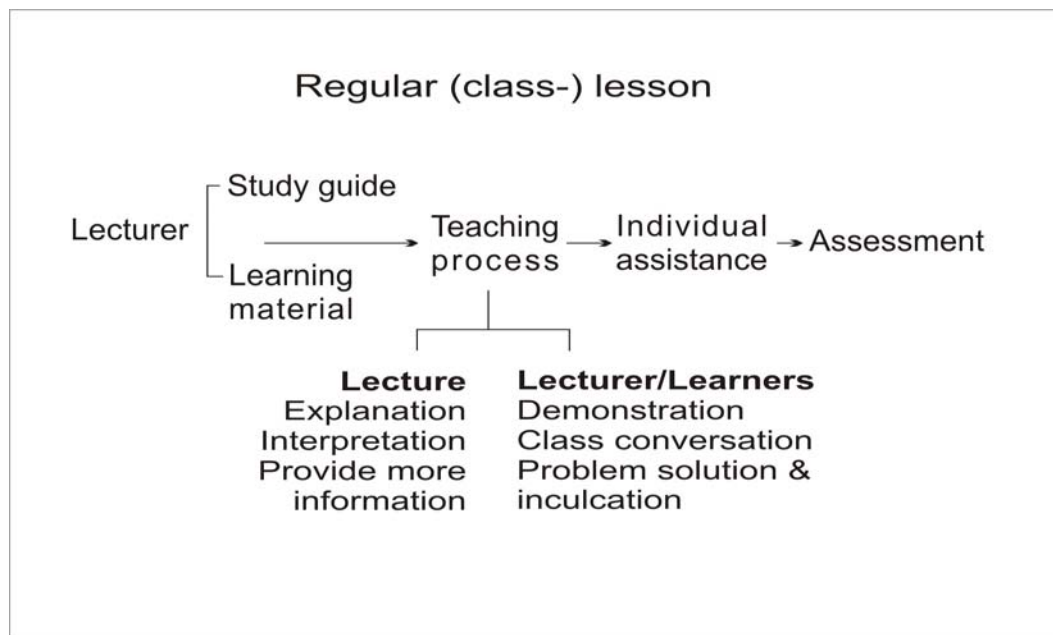
Insert 1

Structure of the education system (Steyn, Steyn, De Waal & Wolhuter, 2002)



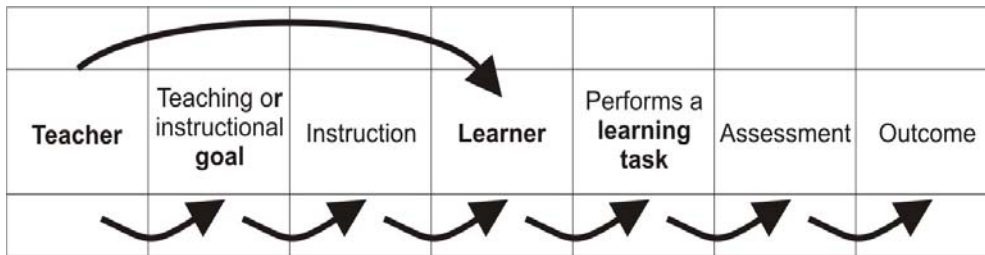
Insert 2

Typical structure of traditional class lesson (Steyn, 2005)



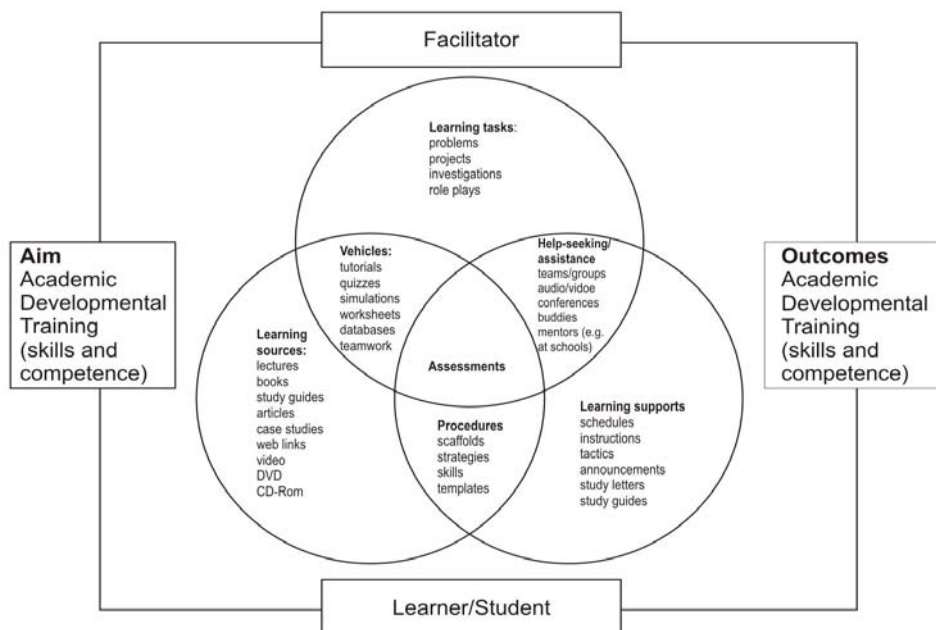
Insert 3

Traditional sequential course of teaching (Monteith & Dreyer, 2005)



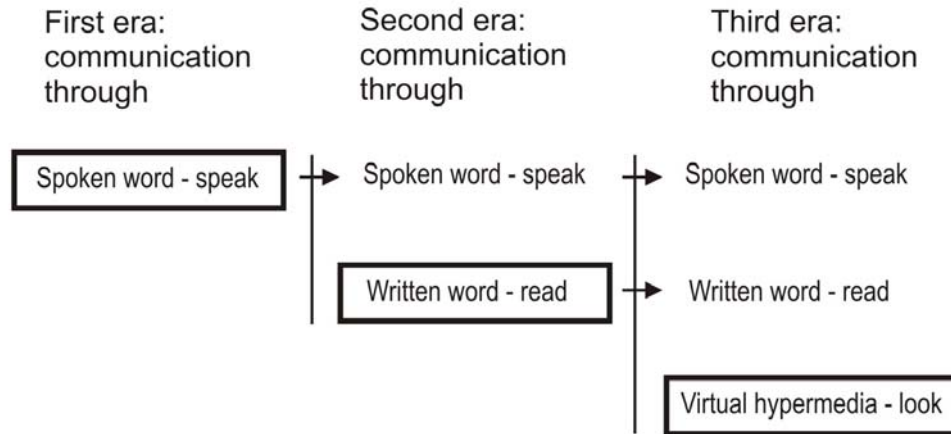
Insert 4

The learning environment of modern teaching and learning (Monteith & Dreyer, 2005)



Insert 5

The development of communication (Rossouw, 2004)



Insert 6

Photo of squatter camps with electricity

Insert 7

Photo of portable DVD-player.

Insert 8

Text inserts

Text inserts should however also, as in the case of the backbone/central text, not be of an elaborate nature, because people reads differently on the electronic media. Large sections of text should be provided on paper, because that is the advantage of paper-based text. Readers read large pieces of text easier on a paper-based medium.

Insert 9

Photos of sun batteries and painting.

Insert 10

Insert of animations: 'water wheel' and 'climate regions of South Africa'.

Insert 11

Teaching video as single conversation

Insert 12

Teaching video as dual conversation

Insert 13

Teaching video as multi-conversation

Insert 14

Video clip from Tour de France

Insert 15

Video clip of history of Potchefstroom.

Insert 16

Need to read (Steyn & Dreyer, 2005)

The need to read will always remain and will be determined by the needs of the readers. The following are examples of such paper-based material:

- Long argued reports: It is easier to read long text on paper and presently it is more user friendly to scan these paper-based material than on e-format.
- Short executive reports: Because of the cost and accessibility factors, it is easier to print and access a short report on paper than putting it on the electronic media.
- Flyers and advertisements: Flyers and advertisements on paper will be more effective, for example, amongst a crowd at a fair. On the other hand, a traveller will prefer an SMS-message to locate a B&B in a foreign city.

Insert 17

The pre-requisites as result of the said research, relates to the following design principles in the literature (cf. Mayer, 2001: 186, 191; Mayer & Moreno, 2003:44; Weinstein & Meyer, 1994: 16) and can be summarized as follows:

- Better transfer occurs when learners receive verbal and visual information.
- Related verbal and visual information should be closely linked.
- The core (cause-and-effect explanation) information should be used without extraneous verbal or visual information.
- The different types of information should be integrated (in such a manner that it addresses the visual as well as auditory channels of the human information-processing system).
- The integrated verbal and visual information should be easy to store and to revisited.