Hypermedia and its Role in Learning

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INTRODUCTION

In this article, initially, the definition and outstanding aspects of the relevant terms such as multimedia, multiple media, interactive multimedia (IMM) hypermedia and adaptive hypermedia (AHM) will be focussed on. Later, the role of hypermedia in learning will be concentrated on. The aim is: (1) to give definition of the pertinent terms and state what hypermedia means, and (2) to explore the role of hypermedia in learning at this digital age, in which most learners are generally digitally fluent and competitive (Türel, 2013, p. 483; Gros et al., 2012, pp. 190-210) although some claims otherwise (Bullen et al., 2011, pp. 1-24). Pedagogically and epistemologically, educational institutions should respond to such learning demands and differences to accommodate the digital-literate, wise and efficient learning style preferences. Educational institutions have to use hypermedia in order to be competitive in this digital age (Duncan-Howell, 2012).

BACKGROUND

It is a de facto that nowadays when we speak of 'hypermedia' mostly one thing comes to mind. It is the use of digital video, audio/sound, text, visuals (i.e. pictures/images/photographs, graphics, tables, figures), animations, hyperlinks, optimum combinations, instructions etc. on the same computer platform, which are totally computerised and under computer and learners' control (Figure 1).

Besides, it was well known that multimedia also referred to the use of different tools (i.e. television, the tape recorder, video, the overhead projector, the slide projector etc.) (Ashworth, 1996, p. 81). This was later "referred as multiple media to differentiate it from computerised multimedia" (Peter, 1994, p. 10) or hypermedia, as known now. In those days, term 'multimedia' was used instead of 'hypermedia'.

Türel (2014, p. 1) defines multimedia as a combination and delivery of a wide range of digital elements on the same computer platform which "provides a

Figure 1. A hypermedia example that provides an optimum combination (i.e. text + video + audio) as feedback. The task requires learners to type in a word. Once the word is typed in, the program instantly displays feedback (Turel & McKenna, 2013, p. 194; Türel, 2012, p. 42).
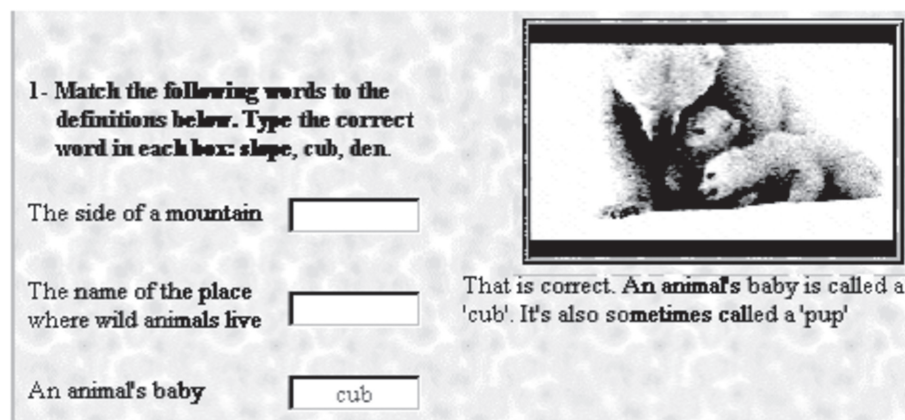
multidimensional, multi-sensory environment in which rich, efficient, instant, comprehensible, optimum and meaningful input and feedback can be presented" to learners. Allen (1994) defines multimedia as ''… programs which involve the use of sound, pictures, and film, as well as ordinary text, to convey information." Brett (1998, p. 81) states: "multimedia can be defined as the computer-delivered combination of a large range of communications elements …." Collin (1997, p. 151) defines multimedia as "the combination of sound, graphics, animation, video and text within an application; an application that uses these elements is often called a 'multimedia title' and might also provide links between elements in the form of buttons, hotspots or hyperlinks to create an interactive application through which a user navigates."

When links between elements are provided, then multimedia is called interactive multimedia (IMM), otherwise it is called multimedia. Mangiafico (1996, p. 46) defines IMM as "learning systems that integrate combinations of audio, text, and video with computer programs allowing students to interact with the material.

Students can listen to people speaking, focus on gestures and facial expressions, access transcripts … and assess their own progress with interactive exercises." Watts (1997, p. 2) defines IMM as "applications which seek to create exploratory learning environments in which digital … components are fully integrated through platforms and placed under the direct control of users who are able to follow individual pathways through data stores."

IMM is also called hypermedia (Figure 2). Fox et al. (1992, p. 39) state: "multimedia becomes hypermedia when an application enables the user to retrieve information and ideas linked in an associative or non-linear fashion, and when the application gives access to yet more information which can also be retrieved in a non-linear way." Ashworth (1996, p. 81) declares: "in current jargon, (interactive) multimedia is used synonymously with 'Hypermedia'…." Stenton (1998, p. 11) defines: "the choice of the term 'hypermedia' rather than the universal 'multimedia' is, of course, no accident. Hypermedia refers to hypertext improved by sound and pictures."

Figure 2. An example of hypermedia featuring hyperlinks. The "words in red colour" contain links. In the figure, the word "equator" was clicked on and the optimum combination (i.e. the texts and visuals on the right side) was displayed (Turel & McKenna, 2013, p. 201).
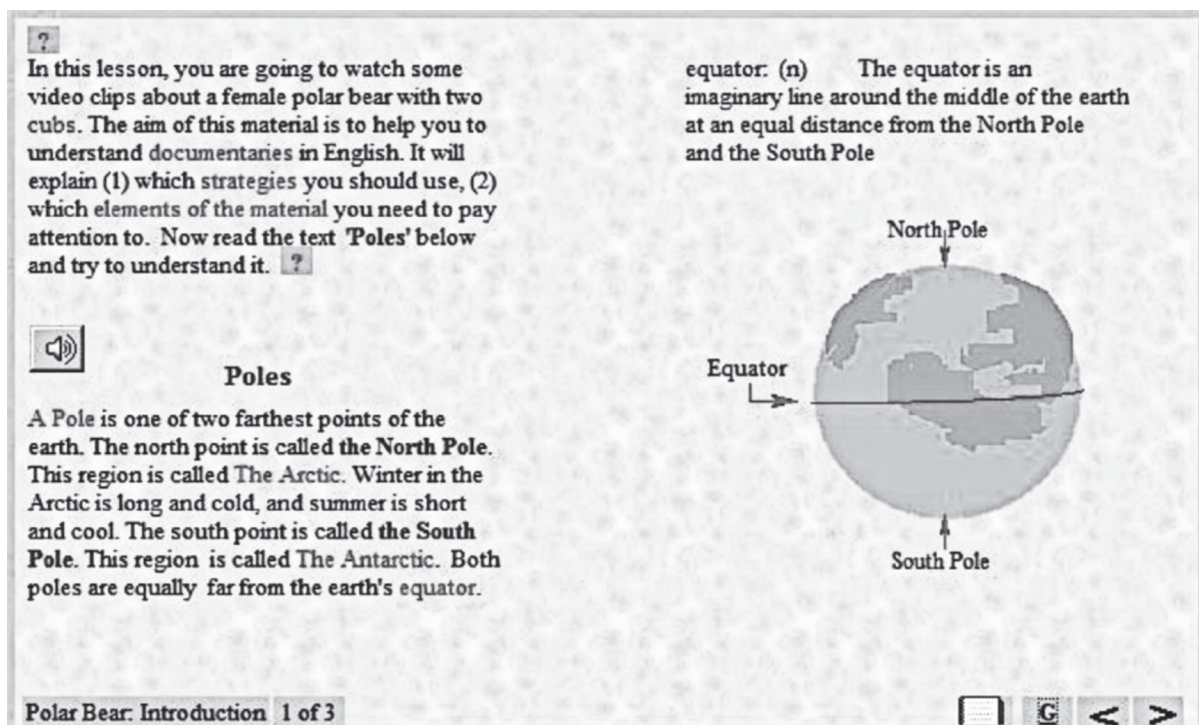
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