

A Comparative Study on E-Note-Taking

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INTRODUCTION

In all walks of life individuals are involved in a cumulative and incremental process of knowledge acquisition. This involves the accessing, processing and understanding of information which can be gained through many different forms. These include, deliberate means by picking up a book or passive by listening to someone. The content of knowledge is translated by individuals and often recorded by the skill of note-taking, which differs in method from one person to another. This article presents an investigation into the techniques to take notes including the most popular Cornell method. A comparative analysis with the Outlining and Mapping methods are carried out stating strengths and weaknesses of each in terms of simplicity, usefulness and effectiveness. The processes of developing such skills are not easy or straightforward and performance is much influenced by cognition. Therefore, such associations regarding cognitive conceptions involve the exploration into note-taking processes encoding and storage, attention and concentration, memory and other stimuli factors such as multimedia.

The social changes within education from the traditional manner of study to electronic are being adapted by institutes. This change varies from computerising a sub-component of learning to simulating an entire lecture environment. This has enabled students to explore academia more conveniently however, is still arguable about its feasibility. The article discusses the underlying pedagogical principles, deriving instructions for the development of an e-learning environment. Furthermore, embarking on Tablet PC's to replace the blackboard in combination with annotation applications is investigated. Semantic analysis into the paradigm shift in e-learning and knowledge management replacing classroom interaction presents its potential in the learning domain. The article concludes with ideas for the design and development of an electronic note-taking platform.

BACKGROUND

Over the years, research into note-taking has been carried out intensively. The paper aims to comparatively analyse the various note-taking techniques, providing an explanation into the effectiveness and simplicity. The relationship between cognition and note-taking is studied presenting a breakdown into the processes involved. Due to the vast amount of research into cognition its relevance is imperative. Although, great research within both areas has been undertaken to design an electronic note-taking tool, an analysis into existing applications has also been conducted, with Microsoft OneNote being the most favourable. This is an annotation application that has no predefined technique to record notes or annotations and saves handwriting as an image. Throughout the literature many authors work contributing to this study will be presented.

COMPARATIVE STUDY

This article presents an insight into note-taking, the various methods, cognitive psychology and the paradigm shift from traditional manner of study to electronic.

Note-Taking Techniques

Theoretically, note-taking is perceived as the transfer of information from one mind to the other. Today, the most popular note-taking technique is the Cornell note-taking method, also referred to as 'Do-it-right-in-the-first-place'. This note-taking method was developed over 40 years ago by Professor Walter Pauk at the Cornell University (Pauk & Owens, 2005). The main purpose of developing this method was to assist students to organise their notes in a meaningful manner. This technique involves a systematic approach for arranging and condensing notes without the need to do multiple recopying. The method is simple and

effective specifying three areas only. Area A keywords, Area B notes-taking and Area C summary.

Area A is assigned to keywords or phrases, which are formed by students towards the end of the lecture. Over the years an alternative has been questions aiding recall over recognition. These cues are known to assist memory and pose as a reminder alongside helping to identify relationships, also referred as the Q-System (Pauk & Owens, 2005). Area B remains for the recording of notes during lecture. Here the student attempts to capture as much information as possible. Finally, Area C is left for the student to summarise the notes and reflect upon the main ideas of the lecture (Pauk & Owens, 2005).

The main advantage of this technique is its clear-cut and organised structure. This technique is also suitable for technical modules including Mathematics and Physics and non-technical modules such as English and History. During an engineering and applied sciences

workshop, experiments involving 70 student participants revealed this note-taking method is straightforward (Anderson-Rowland, Aroz, Blaisdell, Cosgrove, Fussell, McCartney & Reyes, 1996). The authors Anderson-Rowland *et al.* (1996), state this method enables the organisation of notes, entails interaction and concentration therefore; a scheduled review can be conducted immediately highlighting keywords. Moreover, as the students can summarise content this facilitates learning by increasing understanding. Additionally, the strength of the technique is the ability to take notes instantaneously, saving time and effort due to its systematic structure.

In comparison, the Outlining method (see Figure 2) has a more spatial and meaningful layout, implicitly encoding conceptual relations. For example, indentation may imply grouping and proximity conceptual closeness (Ward & Tatsukawa, 2003).

The method consists of dashes or indentation and is not suitable for technical modules such as Mathematics or Physics. This technique requires indentation with spaces towards the right for specific facts. Relationships are represented through indentation. Note-takers are required to specify points in an organised format arranging a pattern and sequence built by space indentation. Important points are separated and kept furthest to the left, bringing in more specific points towards the right. Distance from the major point indicates the level of importance. The main advantage of this technique is the neatly organised structure allowing reviewing to be conducted without any difficulty. However, the Outlining method requires the student's full concentration to achieve maximum organisation of notes. Consequently, the technique is not appropriate if the lecturer is going at a fast pace. The method has also been disapproved by Fox (1959) because of its confusing organisational structure. This is mainly due to the arrangement of numerals, capitalised letters and so forth.

In contrast to the Cornell and Outlining methods, the Mapping method (see Figure 3) is a graphical representation of the lecture content. Students are stimulated to visually determine links illustrating relationships between facts and concepts. Concept maps enable brainstorming, breakdown and representation of complex scenarios, identifying and providing solutions for flaws and summarising information. To enhance accuracy students must actively participate and initiate critical thinking. However, a drawback arguably, has been the structural organisation and relationship of

Figure 1. The Cornell note-taking method (adapted from Pauk & Owens, 2005)

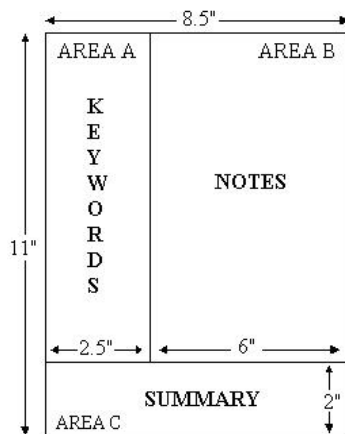


Figure 2. An example of the outlining note-taking method

Example: -

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Note-taking
  _definition: short paraphrases to assist memory
    _types -
      _Cornell
      _Outlining
      _Mapping
    _factors -
      _cognition
      _memory
      _sensory

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