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# Voluntary use of online lecture notes: correlates of note use and note use as an alternative to class attendance

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#### Abstract

Note taking and note reviewing are essential college student learning activities. A large number of carefully controlled studies have evaluated student effectiveness in implementing each of these skills and have found that both can be improved by providing instructor notes. While the Internet now offers a practical method for providing notes, some instructors are reluctant to offer notes because they fear that students will use these notes as an alternative to class attendance. This study used data collected by the server and questionnaires to describe voluntary use of online lecture notes, to search for correlates of individual patterns of note use, and to investigate student use of notes as an alternative to class attendance. Students primarily printed notes and used these notes during class presentations. There was some evidence that note users performed better on examinations than students who did not use notes. Some students did admit to using notes as an alternative to class attendance, but a comparison between the examination scores of those who admitted to this practice and those who claimed never to use notes for this purpose showed no significant differences in performance.

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#### 1. Introduction

Note taking and note reviewing are common student activities associated with large lecture, introductory level, service courses. The pervasive nature of these activities and the assumption that such activities are a necessary part of the college learning experience have encouraged researchers to investigate how students go about taking and reviewing notes and how these activities might be improved. One identifiable body of work originated in the descriptive model of DiVesta and Gray (1972) and proposes that students potentially benefit from the process of taking and from the process

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of reviewing notes. These processes were labeled as the encoding and external storage functions, respectively. The benefits of the encoding function are assumed to result from the cognitive activities involved in generating a personalized written record of the lecture. Typically, students must also contend with the lengthy gap between information presentation and evaluation. The benefit of having an external record to review during this gap is described as the storage function. The cumulative body of work attempting to explain the cognitive activities associated with these functions, to compare the relative impact of these activities on test performance, and to determine how individual differences (e.g., content area knowledge, working memory capacity) influence note taking and reviewing now includes more than 100 studies (Hartley, 1983; Kiewra, 1983,1989).

There is evidence demonstrating the benefit of both the encoding and the storage functions of notes with the external storage function having a stronger impact on performance (Kiewra et al., 1991). While the relative contributions of the encoding and external storage functions can be differentiated in research studies, in practice the potential productivity of reviewing notes is often limited by the quality of the encoding function. If a note taker misses or misinterprets key ideas during encoding, the note taker starts at a disadvantage when reviewing these notes. Studies demonstrate a relationship between the accuracy or completeness of notes and performance. The notes taken by college students typically include less than 50% of the ideas presented (Kiewra, 1985a) and the amount of content recorded varies systematically with course performance (Hartley & Marshall, 1974; Locke, 1977).

A possible way to increase the benefits of the review of notes is to provide students a higher quality set of notes. Researchers have evaluated the value of providing complete notes and may describe this resource as instructor notes to imply where complete notes might originate in applied settings. In actual courses, students may also seek to supplement their own notes by reviewing the notes taken by a friend. Students reviewing complete notes demonstrate a performance advantage (Kiewra, 1985a, 1985b; Knight & Mckelvie, 1986; Palkovitz & Lore, 1980). In fact, Knight and Mckelvie (1986) were able to demonstrate that when a delay followed the initial presentation, students were better off reviewing complete notes without attending the initial lecture than attending the lecture and reviewing their own notes. Instructor notes potentially do more than fill in the gaps in notes generated by the note taker. Notes could be structured to demonstrate relationships that might not be obvious in even a complete transcript of the original presentation. For example, an outline or other systems for structuring core ideas would convey a relatively complete record of information and also demonstrate relationships among the core ideas (Kiewra, DuBois, Christian, & McShane, 1988).

Finally, the availability of quality notes may benefit the encoding function. The demands of recording notes limits the ability of some students to attend to lectures (Kiewra & Benton, 1988). Knowing that notes will be available allows struggling students more attentional capacity to devote to understanding ideas as they are presented. The students can listen without worrying about recording information. A variation of this approach would allow students to have notes before a presentation and to use these notes to follow along or to organize personal comments.

## 1.1. Online lectures notes for encoding and storage

The Internet provides a practical way to offer lecture notes to students. Online notes offer learners some options. Learners might print out such notes and bring the notes to class to decrease

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