

# **The Use of Classroom Handouts**

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## **Abstract**

The use of lecture notes and classroom handouts is a controversial topic between educators. At the center of the argument are three questions: Who is responsible for a student's learning? Is note taking a necessary skill that will be lost with the use of handouts? Does note taking reinforce learning?

Overall, the literature shows that handouts can be a very useful tool that enhances the learning process. The forms of lecture notes and handouts are varied. This variance allows a professor to adjust the handouts to fit the need of the class and the expected student effort. The professor must evaluate the costs and benefits to student development before deciding whether to provide handouts and, if so, the form of handouts to be used.

## **Introduction**

Classroom handouts are a very sensitive subject with education professionals. In addition to the renaissance of education research in the 1970s, the economic feasibility of providing notes due to improvements in technology also precipitated this struggle. (Brazeau, 2006) For many courses, the first day is filled with administration information and the one question from some brave student that is common across many disciplines and the stratification from secondary to doctoral level courses is, "Do you provide classroom handouts or notes?" At this instant, the professor has an important decision to make. There are three main areas of concern that center around disagreements about the use of notes and handouts by professors. The first area of concern is the pedagogical question about who is responsible for the education of the student. The second area of concern focuses on the skill of note taking. The third concern is about the learning potential associated with taking notes rather than receiving handouts.

## **Handouts and Pedagogy**

One reason why class notes are such a contentious issue is because many professors believe that this one decision distills an individual's pedagogical philosophy. To provide handouts and notes signals to students and other professors that you believe that the professor is largely responsible for the learning of the student because you are distilling the class instruction (which is a distillation of the overall knowledge expected to be derived from the course) for the student. (Fjortoft, 2005) In contrast, not providing notes or handouts signals to the students and others that they are on their own.

However, both of these views fail to see a compromise. The compromise is a combined effort between the professor and the student. Rather than providing lecture notes, providing an agenda outline or a copy of the PowerPoint slides (hopefully, these are also bullet points rather

than paragraphs of text) helps guide the student through the class and provides them a framework to place their individual notes. (Susskind, 2008)

## **Note Taking as a Skill**

There is a considerable amount of literature about the fear of note taking becoming a lost skill. Many professors cite the ability to consolidate information into a concise format in a relatively quick manner as an instrumental skill that stays with and helps the student long after the class. (Brazeau, 2006) However, it is rare for an occupation to require individuals to condense material as complex as a classroom discussion or for a period of time as long as an academic class.

Handouts allow a professor to cover more material in a faster time period than they would normally be able to cover, thus increasing the amount of instruction for the student. In other words, handouts are a form of technology that allows students to gather, process, and retain information more quickly and easily than before. Concern about the lost skill of note taking is similar to the reasonable fear of any new technology that has the capability to substitute for a skill that was prized in the past and is still useful.

Many conference sessions or large meetings provide at least a handout containing significant talking points to members in attendance. Clearly, this is because there is a lot of information and it helps the participants to be able to look at what the speaker is talking about, make notes within their talking points, and retain the handout for future reference. Why should it be different for a student? In a very similar situation, a handout allows the student to take notes within the instructors printed talking points, listen to the lecture, and contribute to the discussion at the same time.

## **Note Taking and Information Retention**

Empirical evidence has shown that note taking improves information retention. (Boreham, 1988) Note taking forces individuals to synthesize the information and place it in a context that is discernable. (Kobayashi, 2006) This combines audible learning from the class lecture, visual learning from notes placed on a chalkboard, and tactile learning from writing the notes. Additionally, researchers speculate that students are able to retrieve information more easily if they write class notes themselves and in a style that matches their thought patterns. (Peper, 1986)

Findings on long term retention correlated with hand written note taking is less researched. The benefits of well organized notes that combine the professor's thoughts as well as the student's thoughts may prove more beneficial as a reference for long term retention than the benefits of independent note taking. (Titsworth, 2004)

## **Variations of Handouts and Class Notes**

Handouts and class notes can take many forms. (Caris, 1983) The following list offers a few examples to demonstrate the variety of options available to the professor.

### **1) Full lecture notes:**

This is the most complete form of a handout. This is a copy of the professor notes for the discussion and includes copies of all graphs and diagrams. This form is a written record of the class and requires very little student input or effort.

2) Summarized notes on the main points for the discussion:

This form of a handout provides bullet points about the main topics of the class. Typically, it will not include a very deep discussion and may or may not include visual aids. This form is useful if the professor wants to emphasize a few main points and force the student to provide the context and discussion of the topics.

3) Student copies of the slides and diagrams used in class:

This form provides a framework for the student to follow along with the lecture. The inclusion of diagrams negates the need for the student to copy a diagram and allows them to write notes about the diagram. The slides should provide minimal context. This forces the student to provide the notes about a topic while also guiding them along the path of the classroom lecture and discussion.

4) A list of the main lecture points:

This form provides the student a general guideline that allows the student to follow along with the classroom discussion but without diagrams or graphs. Additionally, the student is fully responsible for the content of the notes. This form maximizes student effort while also providing a general framework.

5) A copy of the class agenda:

This is the least complete form of a handout. It places complete responsibility for notes upon the shoulders of the student. The only purpose of this form of a handout is to provide a guide for class discussion so the student will more easily determine the main points of the classroom discussion and how the learning points relate to each other.

## **Conclusion**

Lecture notes and classroom handouts have remained controversial between teachers and professors for over four decades and will likely remain controversial for many more decades. At the center of the argument are three questions: Who is responsible for a student's learning? Is note taking a necessary skill that will be lost with the use of handouts? Does note taking reinforce learning?

Handouts can be very useful for the learning process but they can also be used as substitutes for study and critical thinking. In many cases, the optimal form of handouts is an outline of the class lesson plan. The forms of lecture notes and handouts are as varied as the academic disciplines and environments in which teachers and professors are found. The professor must evaluate the costs and benefits to student development before deciding whether to provide handouts and, if so, the form of handouts to be used.

## **Annotated Bibliography:**

Boreham, N., Lilley, J., & Morgan, C. (1988) Learning from lectures: The effect of varying the detail in lecture handouts on note-taking and recall. *Applied Cognitive Psychology*, vol. 2, issue 2, 115-122.

This article was written in response about previous research that showed an increase in performance by students who received outlines for a class rather than no handouts at all. The

authors conducted an experiment with four groups: headings and full text, headings and key points, headings only, and no supplementary material. The findings showed that headings only was the optimal handout form for student retention. This shows that a moderate amount of material in the handouts is optimal.

Brazeau, G. (2006) Handouts in the Classroom: Is Note Taking a Lost Skill? *American Journal of Pharmaceutical Education*, vol. 70, issue 2, 1-2.

This article addresses the issue of note taking as a skill. Specifically, the author determines that note taking is a critical skill and professors are responsible for forcing students to develop that skill. The professor advocates for less content in the class slides and little to no handouts. In addition to the insightful content, this article serves an informal literature review.

Caris, T., Harris, G., Hendricson, W., & Russell, I. (1983) Effects of three types of lecture notes on medical student achievement. *Journal of Medical Education*, vol. 58, issue 8, 627-636.

This article describes the results of an experiment conducted with medical students. The experiment contained three randomly assigned groups of students. The groups were differentiated by the types of classroom handouts. The three types of handouts included full lecture notes, detailed notes with diagrams, and a class outline. The findings showed that students preferred the full lecture notes but actually performed better when given an outline format.

DiVesta F, Gray S. (1972) Listening and note taking. *Journal of Educational Psychology*. vol. 63:8-14.

This article describes the results of an experiment conducted to determine the impact of instruction style, study habits, and note taking. The study determined that teaching style (illustrated by the position of instruction in a language class) had little to no impact on student performance. However, note taking and review had a significantly positive effect on student retention.

Fjortoft N. (2005) Students' motivations for class attendance. *American Journal of Pharmaceutical Education*. vol. 69:107-12.

The objective of the study was to determine the factors that contributed to student class attendance. Among other factors, the study found that partial handouts motivated students to attend class. Additionally, full lecture notes were a major factor that contributed to student absences.

Kobayashi K. (2006) Combined effects of note-taking/-reviewing on learning and the enhancement through interventions: a meta-analytical review. *Educational Psychology*. vol. 26:459-77.

This study was a meta-analysis of 33 studies centered on note taking. The general distinction in the samples for the studies was no note taking, note taking without handouts, note taking with handouts. The study found that note taking with a handout in the form of a general outline showed the largest positive effect on student performance.

Peper RJ, Mayer RE. (1986) Generative effects of note-taking during science lectures. *Journal of Educational Psychology*. vol. 78:34-8.

This article discusses a study of two experiments involving student retention and note taking. The experiments divided the samples of students into note and no notes groups. The students were then tested after short and long time periods. The study found that students who took notes performed better in the long run. However, students who did not take notes performed better in the short run.

Susskind JE. (2008) PowerPoint's power in the classroom: enhancing students' self-efficacy and attitudes but not the behavior. *Computers and Education*. vol. 50:1228-1315.

This study examined the role of PowerPoint and other multi-media in student perceptions and performance. The study found that the use of Power Point and other multi-media created a halo effect where students perceive a greater result from the class than what reality demonstrated. In the study, students found classes with PowerPoint and multi-media more insightful.

Furthermore, students generally demonstrated better attitudes about the lessons containing multi-media. However, the study showed that lessons with multi-media had little impact on student performance.

Titsworth B. (2004) Student note taking: the effects of teacher immediacy and clarity. *Comm Educ*. vol. 53:305-20.

This study did not measure how note taking impacted student performance. Rather, the study evaluated the quality of student notes in a variety of situations. The results show that students who are given organizational cues or participate in classes that develop ideas rather than rushing through several topics generally prepared notes that were more thorough and accurate than their counterparts. The study emphasized how instructor classroom techniques can impact student note-taking.

### **Additional References**

Annis, L. (1981) Effect of Preference for Assigned Lecture Notes on Student Achievement. *Journal of Education Research*, vol. 74, 179-182.

Hartley, J. (1976) Lecture Handouts and Student Note-taking. *Innovations in Education and Teaching International*, vol. 13, issue 2, 58-64.

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Kinchin, I. (2006) Developing PowerPoint handouts to support meaningful learning. *British Journal of Education Technology*, vol. 37, issue 4, 647-650.

Kroenke, K. (1991) Handouts: Making the Lecture Portable. *Medical Teacher*, vol. 13, issue 3, 199-203.