Assignment Pack

CU1010 Effective Writing

Cairns campus
Study Period 2
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For Assignments 2 and 3

JAMES COOK
UNIVERSITY
AUSTRALIA

James Cook University
School of Arts and Social Sciences

We acknowledge the traditional custodians of the lands where our university is located.

Rewrite, restructure and retitle the following article by Susan Krauss Whitbourne, which is written in journalistic language, so that it conforms to the structural, syntactical, and lexical requirements of effective academic writing.

To do this, you need to identify the key points in the article that are based on solid academic evidence (research, surveys, interviews, and examples from real life) and construct an argument based on this evidence. Disregard anything that relies on hypothetical examples or personal opinions. Do not use material from outside the article to construct your piece.

In Assignment One you practised making an argument and developing paragraph structure. In this assignment you build on these skills to compose a longer essay.

Plan and write an essay that restructures and rewrites the source material to give it academic discipline. The original has the attributes of journalistic writing: it has neither formal introduction nor conclusion; it is personal, rather than issue-centred; it comprises short paragraphs without theme sentences or unity; and it is written in personal, subjective, informal language.

Your task is to convert it into academic writing. Your version should have the clear logical sequence of a formal essay; its content should be centred on the matter at hand; its tone should be impersonal, objective, precise and formal (but not over-formal). Retain *all* relevant information (reworded as necessary). Omit anything that is more suitable to a magazine article or blog post than an academic essay.

This assignment is designed to show your command of essay structure and formal language. Because you are working with only one source, with which your markers are already familiar, you need not include in-text citations or a reference list. (Academic essays normally require in-text citations and a reference list: you will be asked to provide one in the next assignment.)

Do not quote. Use your own words and design your own sentences. Replacing terms in in the article with synonyms will not do the job. Your essay and the paragraphs within it must conform to the structural and linguistic requirements outlined in the *Textbook* and discussed in class.

Edit your assignment carefully to be sure it addresses the assessment criteria in the CU1010 Subject Outline.

Excuses, excuses, excuses: Why people lie, cheat, and procrastinate

Why do honest people lie, cheat, and make excuses?

Published on May 18, 2010 by Susan Krauss Whitbourne, Ph.D. in *Fulfillment at Any Age.* From http://www.psychologytoday.com/blog/fulfillment-any-age/201005/excuses-excuses-excuses-why-people-lie-cheat-and-procrastinate

Have you ever lied to get out of something you didn't want to do? Do you tend to put off unpleasant jobs? In school, did you ever make up an excuse? Cheat on a test? Most people have had one of these experiences. According to my colleague Bob Feldman (Author of *The Liar in Your Life*), the majority of the population lies, often without feeling remorse. Why do people do this? And why does lying, cheating, and procrastinating prevent us from achieving fulfillment?

On college campuses, students have notorious reputations for putting things off till the last minute or failing to complete assignments or tests at all. Cheating is perceived by instructors as so pervasive that we develop elaborate honor systems and codes to prevent it. In workplaces, bosses and coworkers know that employees bend, stretch, and distort the truth. Shows like NBC's "The Office" put these behaviors in a humorous light, and everyone can relate to these plot lines, no matter how ludicrous they may get.

I'll Do It Tomorrow

What are you putting off today?

But we know that preventing these behaviors is about as likely to be successful as stemming the oil spill in the Gulf of Mexico. We can put up protective barriers, try to put the lid on this behavior, or attempt to break it into small bits, but there's no way to eliminate it completely.

I have long been interested in the topic of student excuses, lying, and cheating, both from an instructional and a theoretical point of view. My interest was first piqued by an article I read in a higher education newspaper which accused college professors of killing off the grandparents. The most typical student excuse for exams, missed papers, and the like, claimed the article's author, was the death of a grandparent. Some students have, according to this article, killed off not just 4 but as many as 8 or 10 grandparents in the course of their college careers. Even in a blended family, 10 grandparents would be an unbelievable number. Obviously, said the author, these kids are just making the whole thing up.

In a previous post on the topic of grandparenting I talked a bit about the grandparent excuse, but I'd like to revisit it here from a different vantage point. Students (or should I say professors) do not actually kill the grandparents in their excuses. An anonymous survey I conducted on my college campus of several hundred students showed that students didn't use dead grandparents as excuses. Instead their most likely fake excuse was "family emergency." In fact, when grandparents die, it is a devastating event for many young people. And they don't just die on exam week or the day a paper or job is due. Instructors (and employers) only know about the death of grandparents when the event coincides with one of these deadlines. But the family emergency- that is a different matter altogether. "Emergency" conjures up the image of inevitability and unavoidability. "Family" is vague enough to cover anything from a sister's toothache to an uncle's decision to uproot his family and move across the country. This excuse is one size fits all.

As an instructor, I face these issues all the time. I try to handle each case fairly. Students in one class I teach (a very large lecture) must fill out an "Excuse Form" which my teaching assistants and I evaluate and vote on before accepting or rejecting. We are looking to weed out liars but also to make fair and consistent rulings. Most of the time, I think the system works. However, there are always exceptions, some of them quite extreme. My teaching assistants and I spend probably what is inordinate time and energy trying to sift out the grains of truth. I'm pretty sure we do a good job, but I know there are students who slip through the cracks.

Let's start with the case of 23-year-old Adam Wheeler who was indicted for faking not only his college application to Harvard but also scholarship applications including the Rhodes and Fulbright. He'd already been suspended for academic dishonesty from Bowdoin College before lying his way into Harvard. Ultimately he got caught when he wrote his own letters of recommendation for those prestigious scholarships. As a side note, I'm the Rhodes Scholarship faculty advisor at UMass Amherst, so I found the case particularly compelling and disturbing.


Another case ripped from the headlines is Richard Blumenthal, Democrat from Connecticut, running for the Senate as reported in the May 18 *New York Times*. His recounting of his experiences during the 60s to veteran's groups and others is replete with stories about service. However, not only did he NOT serve in Viet Nam, he tried repeatedly (and succeeded) to avoid going to war. Blumenthal is one in a string of politicians and even historians such as Joe Ellis who either lie about or plagiarize their

work. We unfortunately have come to expect this sort of behavior from politicians, but a historian? Give me a break!

How does this happen? How does a "good" person go bad? There are four reasons:

1. **Reinforcement.** The seeds of lying are planted and mature while people are in school. Desperate due to procrastination, heavy course loads, the need to work, students make a tiny foray into the world of the excuse-maker and liar. They aren't called on their "family emergency" by their instructor, so the next time they become more bold. Getting away with the excuse or lie strengthens their inclination to lie the next time.

2. **Memory distortions.** The second reason is that lies and excuses build on each other and create their own reality. People who lie about their past, as was the case with Ellis, tell one little story that doesn't seem "so bad." The next time, having told that story, it becomes part of their long-term memory. What psychologists call **source memory,** or our recall for where something happened to us, can be faulty, and we forget that we told that tiny fib. The fib becomes part of our long-term memory. We are also vulnerable to the planting of **false memories**. If I read a string of words to you such as "cake, candy, honey, sugar," and later ask you if the word "sweet" was in the list, the chances are good that you'll think it was. The sweet words in the list conjure up the category label and now it becomes part of your neural network. According to the cognitive explanation, then, lies and excuses build on each other and create their own supposed truthful memories.
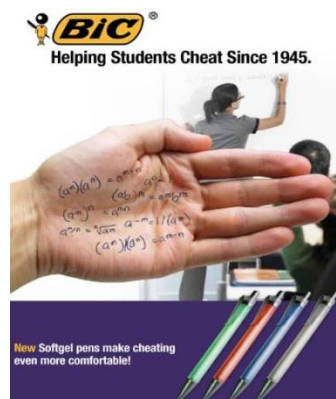
3. **Protection of positive sense of identity.** This less rational view our sense of self, or identity. People want to believe that they are ethical, honest, and morally upstanding. They will go through all sorts of mental shenanigans to maintain this view, even when their behavior is in direct conflict with "reality." Rather than admit that they lied, cheated, or worse, they twist the facts around so that, in their minds, they didn't. It's not consistent with your identity as an honest person to admit that you made up an excuse, so rather than do this, you start to believe

in the excuse. Or you might use that famous defense mechanism known as "projection" in which you attribute the blame to someone else.

4. **Self-serving biases.** Social psychologists point out that we use one set of guidelines to evaluate ourselves and another to evaluate others. In line with the identity explanation, the way we evaluate ourselves is pretty lax. We'll blame the situation, not ourselves, when we make excuses or lie. But catch someone else in a lie- that's a different story. This person is bad, morally defective, and someone we should avoid at all costs if not penalize. This process, known as the "fundamental attribution error" (does this bring back memories of your intro psych class?), is an important one in the excuse-making, lying, and even procrastination literature.

People who lie and cheat rarely blame themselves. In an anonymous survey I conducted of my introductory psychology students last year, I asked them to tell me whether they cheated on a test. A depressingly high 20% said they cheated on a test, paper, or both. Of these, only 6% of the reasons given were admissions of being too lazy to study. Another 25% of the reasons were that the cheater had "no chance to study" (a euphemism for too lazy). The rest said they were desperate to do well, or blamed something about the situation (the professor didn't care or everyone was doing it). Yet, just about half who admitted to cheating believed that people who made false excuses or cheated were "shortchanging themselves and their education."

We can conclude that there are several complex and interlocking reasons for lying, cheating, and fabricated excuse-making. The reason that these are a concern are not only because these behaviors get a person in trouble, but they are behaviors that keep a person from achieving maximum fulfillment. These individuals are "shortchanging themselves." As I tell my students on day one of the semester- when you cheat, you're depriving your brain of the experiences and knowledge that you came to college to gain. At a deeper level, as the brilliant psychoanalyst Karen Horney observed, when you create a false self, the gap widens between who you are and who you wish to be. Eventually you lose touch with your real self, and that sets the stage for neurosis to develop, affecting both your mental and physical health.

If you are going to tap into your true potential, you have to set aside that false self and accept your real self, flaws and all. As you do so, you'll have fewer reasons to lie. And that's the truth.

Topic

Writers such as Don Tapscott, in *Growing Up Digital: The Rise of the Net Generation* (1998) have claimed that multitasking produces effective young learners.   Does the material provided below endorse this claim?

Your task in this assignment is to write a clear, methodical and coherent essay *using research that has already been done.* It is not to conduct your own research, or to produce some "truth" independent of this research. As you plan and draft your essay you may use *only* the material provided below.

You will be assessed on your ability to analyse and synthesise research, as well as the style and structure of your essay. The content of your essay will be assessed *only* to the extent that it fairly represents the information in the articles provided.

Your two previous assignments concentrated on sentence and paragraph formation, the basics of essay structure and the demands of formal academic writing. Here you build on those skills to incorporate research material into a formal argument, as discussed in lectures and workshops.

To begin, analyse the question and be certain you understand its terms. Then read the eight extracts below and decide how you will frame your answer. Your essay should draw from the material provided to address all aspects of the question, either by paraphrase, by summary, or by direct quotation. You will not have room to use all of the material – intelligent selectivity is part of the task.

Before you begin to plan your essay, read all the source material thoroughly. Use a good dictionary or Google to look up words or ideas that you do not understand, not for further research, but for clarification. Only then select the points that will help your argument. You should use at least **four** sources, but may include more. **You may not gather material from elsewhere.** You will be marked down if you do.

Should you express an opinion, make sure that it is supported by evidence from one or more of the sources.   Tell your reader *why* you think as you do, based on the evidence.

Do not rely on one or two sources. The task is to present a full and balanced overview of the material, not to cherry-pick. Think strategically about how you

paraphrase and summarise. By all means include quotes, but quote selectively: each quote should fit the grammar and syntax of your own sentences. When you quote verbatim (that is, word for word), either use quotation marks (for short quotes) or separate and indent longer quotations. Do not use quotation marks for indented quotes (they are redundant). Name your source as you introduce paraphrases or summaries, and ensure that all quotes, paraphrases and summaries are consistent with the points you make.

Your essay should contain a logical, consistent, clear argument. Your introduction should briefly give relevant background, state your thesis and outline the topics of the subsequent paragraphs. Make sure that each paragraph has a theme sentence and develops an aspect of your argument. Your conclusion should show what the evidence you have presented adds up to. It does not have to begin with the word "therefore," but it should perform that function. Without bringing in new material, look to use your conclusion constructively – don't just repeat what you have already said. Your reader knows that already.

Of course, as with the earlier two assignments, your essay should conform to the structural and stylistic requirements outlined in your *Textbook* and discussed in class. Quotes and citations should be smoothly introduced, properly punctuated, and correctly cited in APA style. Include an APA style reference list at the end of your essay on a separate page. Follow the citation methods outlined in the Library guide on APA formatting: http://libguides.jcu.edu.au/content.php?pid=82408&sid=2681283.

The sources below may not be in APA style. You will need to edit them so they conform to the conventions of APA. Edit your assignment carefully to be sure it addresses these criteria. Use 12-point Times New Roman font and double space with appropriate margins. Print your work on one side of the paper only.

Assessment criteria for this assignment are available in the Subject Outline.

1. **From Eyal Ophir, Clifford Nass, and Anthony D. Wagner.** *Cognitive control in media multitaskers.* **Proceedings of the National Academy of Sciences of the United States of America. September 15, 2009 vol. 106 no. 37 pp. 15583-87.**

Chronic media multitasking is quickly becoming ubiquitous, although processing multiple incoming streams of information is considered a challenge for human cognition. A series of experiments addressed whether there are systematic differences in information processing styles between chronically heavy and light media multitaskers. A trait media multitasking index was developed to identify groups of heavy and light media multitaskers. These two groups were then compared along established cognitive control dimensions. Results showed that heavy media multitaskers are more susceptible to interference from irrelevant environmental stimuli and from irrelevant representations in memory. This led to the surprising result that heavy media multitaskers performed worse on a test of task-switching ability, likely due to reduced ability to filter out interference from the irrelevant task set. These results demonstrate that media multitasking, a rapidly growing societal trend, is associated with a distinct approach to fundamental information processing. (15883)

In an ever-more saturated media environment, media multitasking—a person's consumption of more than one item or stream of content at the same time—is becoming an increasingly prevalent phenomenon, especially among the young. Researchers have examined the immediate effects of multitasking, and of media multitasking in particular, on memory, learning, and cognitive functioning. However, it is unknown whether and how chronic heavy multitaskers process information differently than individuals who do not frequently multitask (viewing multitasking as a trait, not simply a state). This issue seems especially pertinent in light of evidence that human cognition is ill-suited both for attending to multiple input streams and for simultaneously performing multiple tasks. (15583)

The present research suggests that individuals who frequently use multiple media approach fundamental information-processing activities differently than do those who consume multiple media streams much less frequently: their breadth-biased media consumption behavior is indeed mirrored by breadth-biased cognitive control. Heavy Media Multitaskers (HMMs) have greater difficulty filtering out irrelevant stimuli from their environment (as seen in the filter task and AX-CPT with distractors), they are less likely to ignore irrelevant representations in memory (two- and three-back tasks), and they are less effective in suppressing the activation of irrelevant task sets (task-switching). This last result is particularly striking given the central role attributed to task-switching in multitasking.
These results suggest that heavy media multitaskers are distracted by the multiple streams of media they are consuming, or, alternatively, that those who infrequently multitask are more effective at volitionally allocating their attention in the face of distractions. (15889)

2. Lee Shumow, Jennifer A. Schmidt, Hayal Kackar, Adolescents' Experience Doing Homework: Associations Among Context, Quality of Experience, and Outcomes *School Community Journal.* **Vol 18, Issue 2, Fall 2008. 9-29.**

One factor which might influence students' subjective states while doing homework is the context in which homework is completed. In this age of multitasking it is important to consider whether students view their homework as a primary activity. Do today's students tend to view homework as a "main activity" or as something they can get done while the bulk of their attention is focused on television, or friends, or some other activity? (9)

When doing homework, students reported it was the primary activity 77% of the time. Students were alone approximately half of the time that they did homework, and about 65% of all homework responses occurred while students were at home. (12)

Students' affect when doing homework appears to depend on who they are with when they are doing homework, as well as whether homework was their primary or secondary activity. When homework was the primary activity, adolescents reported higher levels of negative affect (i.e., anger and stress) as well as higher levels of cognitive engagement (e.g. control, effort, and involvement). Adolescents reported higher levels of positive affect (i.e., enjoyment of activity and interest) when homework was a secondary activity.

Positive affect has been associated with benefits in producing better long-term memory (Kirk et al. 1998). In general, adolescents reported more positive affect when they were doing homework with a companion than alone. They enjoyed the activity more and were happier with both parents and friends than when alone. Negative emotions were more common alone than with friends; more anger and stress was reported while completing homework alone than with friends. Adolescents did not report being angrier or more stressed with parents compared to when they were either alone or with friends. Cognitive engagement, however, was greater when alone. Adolescents reported greater effort and more control when alone than with friends and greater concentration both when alone and with parents than with friends. (13)

Teachers who assign homework most likely hope that their students will focus on the task assigned, rather than complete assignments as a secondary activity. We found that most students did in fact focus on homework as their primary, though not sole, activity. Many were multitasking while doing homework. The most common secondary activities reported were being idle (thinking, daydreaming, resting, nothing) and listening to or watching media. Interestingly, computer usage unrelated to homework was very rare as a secondary activity. Most homework advice given to adolescents or their parents includes admonitions against watching television, the need for quiet while studying, and computer access and use (see, e.g., Kids Health, 2007; National Education Association, 2007). (15)

3.   The use of Internet by high school students for educational purposes in respect to their learning approaches. Betül Imaz, Feza Orhan. *Procedia Social and Behavioral Sciences* 2 (2010) 2143–2150.

In the present age, information and communication technology (ICT) plays a central role in the development of modern economies and societies (The Organisation for Economic Co-operation and Development [OECD], 2006). Today's students integrate technology into all aspects of their lives for multiple purposes, particularly socializing, entertaining and shopping (Asselin, Moayeri, 2008) as well as doing homework by using the Internet (Lenhart,Madden & Hitlin, 2005). Consequently, in the education field, attention has turned to integrating technology into the curriculum (Wallace, 2004). (2143)

* * *

Learning approaches were first identified by Marton and Säljö (1976). The concept incorporates both what students do (strategy) and why they do it (intention) while studying and can reveal either a `deep' (striving for meaning and understanding) or a `surface' (instrumental, reproductive and minimalist) orientation (Marton & Säljö, 1976). A student who adopts a deep approach

- is interested in the academic task,
- searches for the meaning inherent in the task,
- personalizes the task, making it meaningful to her/his own experience and to the real world, and
- integrates aspects or parts of the task into a whole (Leung & Kember, 2003).

In contrast, a student who adopts a surface approach

- sees the task as a demand to be met,
- sees the aspects or parts of the task as discrete and unrelated,
- is worried about the time the task is taking, and
- relies on memorization (Leung & Kember, 2003).(2144)

* * *

The results of the present study reveal a significant difference in favour of the surface students between the frequency of internet use for general purposes by surface learners and deep learners. (That is to say, surface learners appear to use the internet more often, but not necessarily more effectively than deep learners.)   However, no difference was found in terms of student internet use for non-educational purposes (chat, entertainment, surfing), in relation to their learning approaches. The internet use of deep learners for educational purposes (preparing assignments, surfing for study tasks) revealed a significant difference in favor of the deep learners when compared to the surface learners.

The internet use of the students given study tasks/assignments by their teachers that required the use of the Internet for educational purposes are statistically and significantly different from those of the students who were not given those kinds of assignments. According to the results of the present research, teachers' directing their students to use the Internet for educational purposes in their research, projects and assignments has a positive influence on student behaviors in the uses of the Internet, often transforming internet usage from

techniques used by deep learners to techniques used by deep learners. Two different recommendations may be made to change the behaviors of surface learners in particular, since they tend to use the Internet simply as a leisure time activity. One of them is to direct the students with a surface learning approach by giving them assignments where they can use the Internet for educational purposes. As previously emphasized, even if there is a particular learning approach that the students generally prefer and frequently use, this approach is a characteristic which can be changed as a result of influences from their perceptions of the learning environment. Accordingly, a shift from surface learning strategies to deep learning strategies can be made possible through a careful and considered direction by teachers. (2150)

4. Toward a Pedagogy for Using the Internet to Learn: An Examination of Adolescent Internet Literacies by Marlene Asselin and Maryam Moayeri *Proccedings of the Annual Conference of the International Association of School Librarianship.* 2008. 1-18

Today's students integrate technology into all aspects of their lives for multiple purposes, particularly socializing, entertaining and shopping (Lenhart, Madden, & Hitlin, 2005; Media Awareness Network, 2005; Organisation for Economic Co-operation and Development [OECD], 2005). Given the increasing reliance on the Internet by youth to do homework (Lenhart, Madden & Hitlin, 2005; Media Awareness Network, 2005) and the central place of the Internet in a knowledge-based economy (Leu, Kinzer, Coiro & Cammack, 2004) it becomes urgent to extend students' use of the Internet to learn the academic disciplines. Our study sought to identify skills requiring instructional support and pedagogical conditions for using the Internet to optimize students' learning of the academic disciplines. Specifically, objectives of our study were to 1) examine how youth use the Internet when they are doing homework, 2) identify the Internet skills and strategies that youth need to be taught, and 3) identify recommendations from students, teachers, and parents for using the Internet to improve learning.(1)

* * *

Research is challenging the myth of technology-savvy youth and pointing to the pressing need for strategic instruction in these new literacies as well as more effective and meaningful integration of the Internet in learning (Bilal, 2000; Chung & Neumann, 2007; Coiro, 2003; Coiro & Dobler, 2007; Rowlands & Nicholas, 2008). In particular, research shows that today's youth need support in how to effectively search and locate information on the Internet, comprehend hypermediated text, critically evaluate online information, and use information in socially and ethically responsible ways (Coiro, 2003; Rowlands & Nicholson, 2008; Lawless, Shrader & Mayall, 2007; Shenton, 2007). (4).

* * *

Despite their extensive use of the Internet, students lacked skills in many areas but particularly in locating information and critical evaluation of Internet sources. Our case study students consistently began their information searches with Google (typing in www.google.com rather than accessing it from their toolbars), then entering a very few keywords with no search markers. Wikipedia was frequently the first site to appear on their

result list. They typically and rapidly selected the first hit and read a few line at the top of each website, and moved onto other sites in seconds.(6)

* * *

The overall information search pattern was Google, Wikipedia, select from top of hit list, skim the first lines, back click to the Google results, and move on to another result from the top of the hit list. Observations of our case study students showed that their primary criteria for evaluation of websites was whether it served their information search purpose. If the site contained just the topic they were looking for, they were satisfied. At no time did either student apply criteria that they were likely introduced to in school, such as currency, authority and validity. (7)

* * *

Districts and schools want to promote Internet literacy but are limited by funds and by liability. They inadvertently hinder Internet literacy skills by trying to prevent bullying and trying to enhance classroom management. Our student participants regularly communicated over the web while at home, showing that the Internet could be a tool conducive to working on group projects or collaborating on homework assignments. Some districts, however, have banned communication programs and refuse students access to them. For example, both MSN
messenger and Facebook were banned at the schools of the two case study participants, a national trend in North America (National School Boards Association, 2007). This supports the findings of Asselin, Early, and Filipenko (2006) and Leu, Ataya, and Coiro (2002) that the incorporation of the Internet in the school curriculum is highly limited as was borne out in our long wait to commence data collection as we were waiting for students to be assigned a project that would be conducive to Internet use. They told us that most of their homework required only the use of their textbooks. (8)

* * *

One parent said, "I think because school doesn't particularly see the Internet as a resource or software as a way for [my child] to present information that he's put together, he tends to use it for communication purposes. So he's on MSN talking to friends, he downloads music, he plays games. So he really sees it more of as a kind of recreational space than a space for learning." When observing the case study students, we did often see that homework sessions ended in play in the forms of games or leisurely communication (Facebook). Parents felt that districts are "remaining in a very traditional kind of textbook mindset, and they're not really supporting students to use the Internet" and that "it's underused by the school a great deal." Yet at the same time, parents too were concerned about Internet predators and the dark side of the Internet. One set of parents viewed books and the Internet as polarities. (9)

* * *

In their study of post-secondary students' use of digital resources, Rowlands and
Nicholas (2008), concluded that there is "a desperate need for . . . educational research and inquiry into the information and digital literacy skills of our young people" (p. 32). The

reasons for this research are simply that Internet literacy can significantly influence academic performance (OECD, 2005) and is a critical factor of participation in a knowledge-based economy (Leu et al, 2004). (9)

5. The Laptop and the Lecture: The Effects of Multitasking in Learning Environments *Helene Hembrooke and Geri Gay.* Journal of Computing in Higher Education. Fall 2003, Vol. 15(1), 1-18.

The effects of multitasking in the classroom were investigated in students in an upper level Communications course. Two groups of students heard the same exact lecture and tested immediately following the lecture. One group of students was allowed to use their laptops to engage in browsing, search, and/or social computing behaviors during the lecture. Students in the second condition were asked to keep their laptops closed for the duration of the lecture. Students in the open laptop condition suffered decrements on traditional measures of memory for lecture content. A second experiment replicated the results of the first. Data were further analyzed by "browsing style." Results are discussed from Lang's Limited Process Capacity model in an attempt to better understand the mechanisms involved in the decrement. (1)

The ubiquity, pervasiveness and mobility of new technologies encourage a simultaneity of activities that goes beyond anything our culture has heretofore ever known. Indeed, the ability to engage in multiple tasks concurrently seems to be the very essence or core motivation for the development of such technologies. Yet there is a long tradition of psychological and media communication research that indicates that our ability to engage in simultaneous tasks is, at best, limited (Fisch, 2000; Lang, 2000), and at worst, virtually impossible (James, 1890; Woodsworth, 1921; Broadbent, 1958). (2)

Both direct (proxy logs and focus group interviews) and indirect (classroom observation) evidence indicated to us that students were engaged in computing activities that were often unrelated to the immediate class lecture and tasks. Thus we decided to investigate this multitasking behavior more systematically. (3)

Our hypotheses were developed from the extant literature in both cognitive psychology and mediated learning research. In cognitive psychology there is a long tradition of research that has focused on dividing attention between simultaneously occurring tasks. These experiments have formed the basis for methodological and theoretical developments in nearly every subfield of cognitive psychology including learning, memory, perception, and of course, attention. Perhaps most notable is Broadbent's theory of selective attention (1958, 1970). Based on his dichotic listening experiments that required subjects to shadow speech messages in one ear, while ignoring the messages in the other ear, Broadbent concluded that little, if any, content from the nonattended ear is remembered. From these observations, Broadbent proposed that there is a limited processing channel that information is filtered through from a sensory processing stage on its way to a short-term memory store or buffer. From here, information may be processed further before being transmitted into a longerterm memory store. When this channel becomes overloaded, such as in dichotic listening experiments, some of the information is filtered out, while other information is selected for further processing. The filtering mechanism selects inputs based on different physical cues from the stimulus input, such as location in space, and/or frequency.

Since then, psychologists interested in information processing issues such as learning, memory, skill development and retention, processing limitations, and human factors have been investigating the effects of multitasking. The classic paradigm involves having subjects perform a primary task in which some response is required, while simultaneously monitoring a secondary task for specific information or changes. For example, participants might be asked to learn a list of words presented visually, while listening for the occurrence of certain digit strings presented through an auditory channel. Participants might then be tested for their memory of the word list. Many different variations have been investigated including different modalities, the same modalities, task difficulty, the effects of practice, the effects of either the primary or secondary task on performance, and testing during encoding or retrieval (Baddeley, Lewis, Eldridge, & Thomson, 1984; Naveh-Benjamin, Craik, Perretta, & Toney, 2000). Johnson, Greenberg, Fisher, & Martin (1970); Spelke, Hirst, & Neisser (1976).

Almost without exception performance on one or both tasks suffers a decrement as a direct result of having to perform the two tasks simultaneously. Explanations for the performance decrement most typically involve some discussion of limitations in the amount of information that can either be selectively attended to, processed, or encoded such that there no longer exist enough overlap at the time of retrieval for the subject to recognize or recall the to-be-remembered information.(4)

6. Burp, chatter, tweet: new sounds in the classroom. (TRENDS). *T&D* 64.7 (July 2010): p26 *Expanded Academic ASAP*. Web. 25 Jan. 2011.

Students today are using cell phones and computers in class, and some instructors are having a hard time with that when it's not related to learning. Proponents of personal technology devices in the classroom, especially social media tools, point to their contribution to learning in the form of broad reach and real-time feedback. Opponents find it rude and disruptive.

At Syracuse University, if professor Lawrence Thomas catches a single person texting during his philosophy classes, he ends the class on the spot and walks out. Teachers at other schools impound cell phones that ring during class and give grades of zero to people who text or tweet.

Other instructors are taking personal technology in stride. Allison Rossett, professor of educational technology at San Diego State University, says, "Teaching in the classroom is very much affected by technology. Most effects are positive." In her classes at SDSU, students do some collaborative note taking, with several using Etherpad to make notes and add, correct, comment, and reflect on them throughout the session. "It's a pretty interesting experience for them and for the students who review their notes later," says Rossett.
"Also positive (well, sometimes positive) is the pressure that technology places on instructors," says Rossett. "Students want, and expect, their lessons to be lively, vivid, meaningful, and engaging. When they are, they're with you. When they are not, they're on Facebook or eBay."

"This is so typical that some universities and professors have forbidden contact with the Internet during class," says Rossett. "I think their response is too regulatory, but obviously, the classroom is becoming more of an open marketplace and less of a sanctuary."

Today's classrooms have become centers of multitasking. People are texting, tweeting, managing their calendars, and processing email while trying to follow the instructor and take notes. For most people born after 1977, doing many things at once is a natural state of affairs. For people who grew up linear, multitasking can seem like technology-enabled ADD. But as younger workers replace older ones, the expectation for speed and efficient use of learning time will only grow, even if the ability to pay attention suffers. Contrary to what your high schooler may tell you, however, recent research shows that multitasking decreases attention.

7. Mesch, Gustavo S. "The internet and youth culture." *The Hedgehog Review* 11.1 (Spring 2009): 50-61.

The use of different social media to stay in contact all the time with peers has raised the question of how youth accommodate online participation with their busy schedules. With the extensive use of computers, multitasking has become part of the way teens manage a busy life. Media multitasking can be defined engaging in more than one media activity at a time, switching constantly between such activities as email, IM, web search, and sending text messages to friends. (20) In other words, teens are switching back and forth between different activities. It is true that some multitasking existed in the past, with adolescents doing homework and listening to music at the same time, but now it has been expanded form media to social multitasking, conducting various conversations simultaneously with different members of the peer group. In a comprehensive study on multitasking in the U.S., when youth were asked how often they use other media when using each of four media (reading newspapers, watching TV, using computers, and playing video games), it was found that about a quarter are multitasking most of the time, about half from time to time, and only 20 percent of the teens never multitask. From this preliminary study, it is clear that multitasking results from computer use. One central finding of the study was that multitasking is not common when the primary media being used is television. On the other hand, multitasking is very common when using the computer. When using email, 83 percent of the respondents reported simultaneously engaging in other media activity. When using IM, 75 percent reported doing this activity simultaneously with other media consumption. It is not surprising that when using the computer for any purpose, youth report simultaneously engaging in other computer-related activities. For example, when the computer is used for computer games, it is very likely that it is also being used for IM and phone conversations. When the computer is used for IM, it is very likely to be used simultaneously to search websites, watch television, and send email. Finally, when searching for websites, the most popular secondary activity is conducting IM conversations. (51)

* * *

What are the outcomes of perpetual contact, micro-coordination, and multitasking? These activities might create an image of youth who are socially overloaded, managing hundreds of contacts, and exposing themselves to the risks of contact with strangers. This image seems to be different from the behavior and views that teens report. Users are able to build a network of connections that they can display as a list of friends. These friends may be

offline actual friends or acquaintances, or people they only know or have met online, and with whom they have no other link. A study in the U.S. found that 91 percent of all social networking teens say they use the sites to stay in touch with friends they see frequently, while 82 percent use the site to stay in touch with friends they rarely see in person, and 72 percent use the sites to make plans with their friends. (22) In the U.K. the findings are similar, and while users reported massive numbers of individuals as "friends," the actual number of close friends is approximately the same as face to face. The research found that although the sites allowed contact with hundreds of acquaintances, people tend to have around 5 close friends, and 90 percent of their contacts were people they had met face to face. Only 10 percent were contacts made with total strangers. (23) Social networking sites facilitate youth to update others about their activities and whereabouts, part of the culture of perpetual contact. Youth report that the number of individuals in their contact list is important because it is often used as an indication of social standing, the extent of being socially involved with others. (54)

<p style="text-align:center">* * *</p>

The internet plays an important role in adolescent life as a cultural artifact and a culture in itself. It is important to recognize that adolescence is a developmental stage with some common characteristics and at the same time a socially nonhomogeneous group of individuals who adopt different components of the internet for different purposes. Rather than thinking of the internet in dichotomist terms, either reflecting social values and norms or generating a Net-generation, it is useful to think of constant interrelations that are being created, bridging and mutually affecting online and offline youth lives.

Youth adoption of the internet presents opportunities for participation in the information society. The most frequent use of the internet is for conducting social contact with family, friends, and acquaintances. For some adolescents, belonging to a peer group and participating in social activities are dependent on access. The social participation of adolescents is shaped both by their developmental need for social association and the technological features of the internet. The need for social association explains why the majority of the contacts in Social Network Sites and IM are with friends from schools. The features of the internet support the intensification of youth social life that is expressed in perpetual contact. The need to manage this perpetual contact leads to media and social multitasking--strategies that are needed to cope with perpetual contact with one's peer group.

A smaller group of adolescents are active participants in the production of web content and digital culture. Rejecting parental conceptions of privacy, youth are using commercial and noncommercial sites to express to a large and often unknown audience their identities, artistic creations, and everyday experiences. The expression of identity is a developmental need that is expressed in a digital space. Here again, the social meets technology and in this unique encounter creates a change in our conception of private and public space. Personal information about our feelings and whereabouts are published on the internet. The perception is that we are sharing experiences and emotions with our friends, when in fact they are being shared with an infinite audience. Thus, online spaces are being used as a continuation of everyday communication, to reflect on experiences at school and plan joint activities. At the same time, the online experience of conducting multiple activities and conversations with others is incorporated in the way youth approach daily life, and the boundaries between offline and online, public and private, are constantly being blurred,

mutually affecting each other in various ways. These mutual effects are in need of more in-depth study and understanding.

Technologies can and do have a social impact, but they are simultaneously social products that embody power relationships and social goals and structures. (61)

8. **Ulla G. Foehr, *Media Multitasking among American Youth: Prevalence, Predictors, and Pairings* (Menlo Park, Calif.: The Henry J. Kaiser Family Foundation, 2006).**

Only recently has media multitasking been recognized as a factor worth investigating (Brown & Cantor, 2000; Roberts & F oehr, 2004; Roberts, F oehr, & Rideout, 2005; Roberts, F oehr, Rideout, & Brodie, 1999; The Media Center at the American Press Institute, 2004a; Y ahoo! & Carat Interactive, 2003). Often, studies of the use of media such as computers and television are surveys that do not naturally capture simultaneous media use. Roberts and colleagues (1999, 2004, 2005) were the first to use multiple measures to estimate both exposure to multiple media and media use (media exposure reduced by the proportion of time spent doubling up on media). This report analyzes those data in greater detail.

Studies on Prevalence of Media Multitasking

A 2003 study of 13- to 24-year-olds, while lacking any information about media multitasking's prevalence, reported that when most young people multitask, this multitasking is centered around online activities. It also concluded that media activities they are most likely to engage in while going online are listening to music and watching TV (Yahoo! & Carat Interactive, 2003). The researchers characterized young people's media multitasking this way: "Multitasking (using various media simultaneously) is the Millennial's specialty, and the growth in the amount of media being used by young people is largely explained by their multitasking behavior. The 'Net plays a central role in their multitasking, acting as the "hub" media (sic) that they focus upon most." (Yahoo! & Carat Interactive, 2003, p. 11). (4)

* * *

There is little agreement in the neurological and psychological literature on how our brains actually function when we try to process more than one message, or accomplish multiple tasks simultaneously (Meyer & Kieras, 1997). Many theories attempt to account for the delay in response when we try to do two tasks simultaneously, or in rapid succession. Most information processing theories suggest that there is a limit to what our brains can actually process "simultaneously" (Meyer & Kieras, 1997; Pashler, 2000). Research shows that while we can perceive two stimuli in parallel, we cannot process them simultaneously (Pashler, 2000). This phenomenon has been named the psychological refractory period (PRP). The PRP refers to the extra time required to respond to a stimulus the closer it is presented to another stimulus. Though a few pairs of tasks have been found for which the PRP does not apply, most simple tasks result in a delayed response when paired with another simple task.

Researchers are uncertain about what exactly causes the bottleneck in processing. Many suggest that the bottleneck is at the retrieval, or action planning, stage, but how

simultaneous tasks are managed in the brain is not understood (Meyer & Kieras, 1997; Pashler, 2000). some researchers speculate that there may be a central executive processor that cues tasks, while others suggest that bottlenecks arise because the brain cannot "maintain two mappings in an active state" (Pashler, 2000, p. 301).

One of the major costs associated with multitasking has to do with brain resources. Using magnetic resonance imaging to monitor the brain while participants engage in multiple tasks researchers have found that the activation volume is significantly less when two tasks are performed simultaneously than the sum of the activation areas when each of the tasks is performed independently (Just et al., 2001; Klingberg & Roland, 1997). These findings hold for both similar tasks (tasks handled by the same area of the brain) (Klingberg & Roland, 1997), as well as dissimilar tasks (spatial relations and semantic categorization — handled by two separate areas of the brain) (Just et al., 2001).

One interpretation of these results indicates that there may be an upper limit to the amount of brain tissue that can be activated at any one time. They suggest that when we perform two actions simultaneously, we devote reduced resources to each one. (5)

* * *

Researchers have all too often focused on identifying the possible negative effects of a behavior. However, managing multiple media may have plenty of positive effects as well. Media users are learning at a young age how to juggle multiple activities, use time efficiently and use existing technologies in creative ways, albeit sometimes not as originally intended. While there are drawbacks to media multitasking, there may be advantages as well. (7)

* * *

Young people who like risk and adventure and are "sensation seekers" are more likely to media multitask. Sensation seekers are averse to boredom and generally seek adventure and exciting experiences. It follows, then, that sensation seekers are more likely to have multiple media "balls" in the air at any one time. Young people who live in a highly television-oriented household are also more likely to media multitask. Households characterized as highly TV-oriented have no rules about TV, usually watch during meals and often leave the TV on regardless of whether anyone is watching. These circumstances naturally
increase opportunity to media multitask. Girls are more likely to media multitask than are boys. This may not come as a surprise given the general assumption that women are superior multitaskers (O'Connell, 2002; Shellenbarger, undated). Women have larger prefrontal cortexes (the part of the brain responsible for multitasking) and some suggest women's brain architecture makes them better multitaskers (Fisher, 1999). Evolutionary psychology makes the argument that women need to be better multitaskers; women's evolutionary role, caring for offspring, required that they juggle multiple activities, and those who were successful survived (Ellison, 2005). Girls today, perhaps genetically primed for it, multitask what is at the center of their environment: media. In fact, little research exists on multitasking proficiency; though research does confirm that women do multitask slightly more often (Schneider & Waite, 2005), there is very little research to support the idea that women are actually "better" multitaskers than men (Mahany, 2005). (12)