Independent Research Study: An Examination on the Usage of Critical Analysis Skills Amongst University of Toronto Mississauga Students
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Independent Research Study: An Examination on the Usage of Critical Analysis Skills Amongst University of Toronto Mississauga Students

Bethel Woldemichael

Abstract
In *Academically Adrift*, authors Richard Arum and Josipa Roksa acknowledge the growing number of students entering university every year in North America but challenge readers to question: are undergraduates learning critical thinking skills once they get there? Through their extensive research, which draws on survey responses, transcript data, and assessments Arum and Roksa observed students’ progression from their first semester to the end of their second year. According to their analysis of more than 2,300 undergraduates at twenty-four institutions in the U.S., forty-five percent of these students demonstrated no significant improvement in a range of skills – in particular critical thinking skills – during their first two years of university. Based on Arum and Roksa’s research, I began to investigate this process of critical analysis among University of Toronto Mississauga (UTM) students in order to determine whether they were using critical analysis skills inside and outside the classroom.

Introduction
In 1971, renowned Brazilian educator Paulo Freire dedicated his book, *Pedagogy of the Oppressed* an account of his experience teaching Brazilian adults to read and write, to those he called “the oppressed.” Freire examines intimate and fragile relationships between “the colonizer” and “the colonized,” “the oppressed,” and “the oppressor,” and the teacher and the student. In particular, Freire examines the relationship between the teacher and the student by proposing pedagogy for a new relationship between the dichotomies of the powerful and the powerless. In this research study, I used Freire’s framework as a foundation to understand University of Toronto Mississauga (UTM) students’ usage of critical analysis skills.

Freire addresses the “banking” concept of education, in which, “education thus becomes an act of deposition, in which the students are the depositories and the teacher is the depositor. Instead of communicating, the teacher issues communiqués and makes deposits which the students patiently

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1 Bethel Woldemichael is a graduate of University of Toronto Mississauga with an Honours Bachelor of Science majoring in Psychology and Women and Gender Studies. During her final year, she took an independent study course with Dr. Joan Simachik where she examined UTM students’ usage of critical analysis skills. Currently, she is completing her Master of Public Health at the Dalla Lana School of Public Health, University of Toronto with a collaborative in Women’s Health. When Bethel is not tackling issues of social justice, health inequities, and health disparities, she enjoys reading works by feminist authors, watching great films, and biking through her neighbourhood.
receive, memorize, and repeat.” In this concept of education, knowledge is a gift possessed by those who consider themselves knowledgeable and conferred upon those believed to know nothing. Freire argues that the teacher is a narrator who leads the student to memorize systematically: “the more completely she [teacher] fills the receptacles, the better a teacher she is.” In this view, the student is “not a conscious being (corpo consciente); he or she is rather the possessor of a consciousness: an empty “mind” passively open to the reception of deposits of reality from the world outside.”

Paulo Freire rejects the “banking” concept of education, arguing that it has a ripple effect of dehumanizing both the student and the teacher. Instead, Freire proposes a problem-posing education, which ends the hierarchical pattern of the “banking” concept of education and fulfills education’s function of liberating students, teachers, and society. He states,

Through dialogue, the teacher-of-the-students and the students-of-the-teacher cease to exist and a new term emerges: teacher-student with students-teachers. The teacher is no longer merely the one-who-teaches, but one who is himself taught in dialogue with the students, who in turn while begin taught also teach. They become jointly responsible for a process in which all grow. In this process, arguments based on “authority” are no longer valid; in order to function, authority must be on the side of freedom, not against it.

Whereas the “banking” concept of education attempted to maintain the submersion of consciousness, Freire’s problem-posing approach strives for the emergence of consciousness and critical intervention in reality – in which the student is a critical co-investigator in dialogue with the teacher. The teacher now assumes that the student has previous knowledge, experiences, and baggage, which have shaped the student’s mind and are recognized in the classroom. The teacher acknowledges that the student will find the answer, creating an authentic learning experience and producing transformational knowledge. Furthermore, the student is no longer seen as just a sponge absorbing knowledge but is recognized as a knowledge producer.

In Pedagogy of the Oppressed, Freire advocates for “men and women to develop their power to perceive critically the way they exist in the world with which and in which they find themselves; they come to see the world not as a static reality but as a reality in the process of transformation.” Therefore within Pedagogy of the Oppressed, the concept of critical analysis develops, in which Freire argues that the “educator must challenge the learner to critically think through the social, political, and historic reality they live in.” Using Freire’s ideology as a framework, I aimed to understand University of Toronto Mississauga (UTM) students’ usage of critical analysis skills while being cognizant of discourses of power, privilege and pedagogy.

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3 Ibid.
4 Ibid., 75.
5 Ibid., 80.
6 Ibid., 12.
7 Ibid., 76.
Using Paulo Freire’s notions from *Pedagogy of the Oppressed* and Neil Browne and Stuart M. Keeley’s definitions from * Asking the Right Questions: A Guide to Critical Thinking*, I will define what critical analysis is, what it means in theory, and how it is practiced. I will then present an individual research study I conducted amongst third- and fourth-year undergraduates UTM students majoring in either Women and Gender Studies or Psychology. This study looks at UTM students’ understanding of critical analysis, their abilities to use critical thinking skills outside of the classroom and more importantly if there was a discrepancy between students in the two majors. I delve into three key questions within this research study: 1) Do students know what critical analysis skills are? 2) Do students use critical analysis skills inside and outside the classroom? 3) Is there a difference between Psychology and Women and Gender Studies students in terms of critical analysis skills?

Furthermore, using this study’s findings, I will begin to provide suggestions for ways to help students improve their critical thinking skills, what academia can do to help, and lastly what society as a whole can do to continue challenging students’ minds.

**Defining ‘Critical Analysis’**

In * Asking the Right Questions: A Guide to Critical Thinking*, Neil Browne and Stuart M. Keeley delve into what they argue is highly problematic: the ‘sponge’ approach to education in which an individual absorbs information “like a sponge.” The sponge approach, Browne and Keeley argue, “provides no method for deciding which information and opinions to believe and which to reject.”8 The sponge approach has many parallels with Paulo Freire’s “banking” concept of education, in which students are seen as ‘mental puppets’ and “decisions become accidents of association, instead of reflective judgments.”9 Instead, Browne and Keeley argue that individuals must begin to be active readers and listeners by asking questions. This process of actively reading and listening is referred to as the “critical-questioning strategy,” in which individuals are no longer passively consuming knowledge and can begin to either accept, negotiate or oppose meanings. Moreover, Browne and Keeley define critical analysis as the “awareness of a set of interrelated critical questions; the ability to ask and answer critical questions at appropriate times; and the desire to actively use the critical questions.”10 They argue that critical thinking begins with a desire to improve one’s thinking and “is always an unfinished project, a story looking for an ending that will never arrive.”11

In *Teaching Critical Thinking in Psychology*, Dunn, Halonen, and Smith address the importance of critical thinking in the Psychology discipline but cannot agree on “what critical analysis means in theory” as “critical thinking scholarship is in a mystified state. No single definition of critical thinking is widely accepted.”12 In their study Dunn, Halonen, and Smith asked twenty psychology faculty and one hundred and seventy undergraduate psychology majors to complete an online survey regarding critical thinking,

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what it means in theory, and how it is addressed in the classroom.\textsuperscript{13} In addition to open-ended questions, students and faculty had to choose the best among four different definitions of critical thinking. Dunn, Halonen, and Smith found that:

Most students and faculty also agreed that critical thinking was important in facilitating learning. Not surprisingly, freshmen rated critical thinking as less important than other participants did. More advanced students and those who had taken a research methods course were more likely to appreciate the importance of critical thinking. For faculty, the activities rated most likely to encourage critical thinking were critiquing a journal article, engaging in debates, writing a research paper, submitting discussion questions for class, and evaluating case studies. Students’ top five activities also included critiquing a journal article, engaging in debates, and evaluating case studies. For the most part, students and faculty agreed on which activities were most likely to encourage critical thinking.\textsuperscript{14}

Dunn, Halonen, and Smith argue that faculty must focus on critical thinking skills and must “demystify” critical thinking for students. Although faculty reported that the activities they conducted in the classroom ‘could’ encourage critical thinking, they acknowledge that the way an instructor conducts certain class activities is vital to whether that activity will encourage critical thinking.\textsuperscript{15} Furthermore, the authors recommend learning activities that “explicitly teach the skills of critical thinking, develop the disposition for effortful thinking and learning, direct learning activities in ways that increase the probability of transcontextual transfer (structure training), and make metacognitive monitoring explicit and overt.”\textsuperscript{16}

**Methods**

To begin my research, I looked at the syllabi for Psychology and Women and Gender Studies courses offered in the 2011-2012 school year at the University of Toronto Mississauga. I reviewed syllabi for 18 first, second, and third year Psychology courses and 18 second, third, and fourth year Women and Gender Studies courses. The discrepancy in course year for both disciplines was due to availability of syllabi. I searched for the keywords of ‘critical’, ‘critique’, ‘analysis’, and ‘analyze’ in the syllabi and recorded the frequency of those words. The resulting data was complied and compared to show the differences and similarities between Psychology courses and Women and Gender Studies courses.\textsuperscript{17}

I solicited participants in my own Women and Gender Studies courses. I made an announcement in third- and fourth-year Psychology courses for any interested students who would like to participate. I used the snowballing sampling method, in this study, where existing participants recruited future participants from among their acquaintances.

\begin{footnotes}
\item[13] Ibid.
\item[14] Ibid., 24.
\item[15] Ibid.
\item[16] Ibid.
\item[17] I choose to study UTM students majoring in either Psychology and/or Women and Gender Studies because those were my chosen disciplines and found it interesting to study what I was exposed to.
\end{footnotes}
Once students were recruited, I sent emails out to schedule a specific time to meet on the UTM campus to conduct interviews. I interviewed seven third- and fourth-year undergraduate UTM students majoring in Psychology and seven third- and fourth-year undergraduate UTM students majoring in Women and Gender Studies. During my interviews, I started by introducing myself, my undergraduate studies at UTM, thanking them for their time and participation, and explained the purpose of my research study. I then asked each participant a set of ten open-ended questions (Appendix A) to provoke and encourage full, meaningful answers and conversations between the participant and interviewer.

**Results & Discussion**

In comparing the syllabi for eighteen first, second, and third year Psychology courses and eighteen second, third, and fourth year Women and Gender Studies courses, there was a drastic difference in the amount of times the keywords of ‘critical,’ ‘critique,’ ‘analysis,’ and ‘analyze’ appeared in the syllabi. In all eighteen Psychology courses, these keywords appeared six times, while in all eighteen Women and Gender Studies courses, these keywords appeared one hundred and forty one times. These findings are shown below in Figure 1, exemplifying the drastic difference of usage between the two disciplines:

![Figure 1: Number of times keywords: ‘Critical,’ ‘Critique,’ ‘Analysis,’ and ‘Analyze’ appear in Psychology and Women & Gender Studies course syllabi](image)

Most interviewed undergraduates had heard of ‘critical analysis’ early on in their university studies. As shown in Figure 2, nine students first encountered ‘critical analysis’ in either their first or second year courses.
The exception was one Women and Gender Studies student “T.L.” who first heard of ‘critical analysis’ in her high school years. T.L. states, “I first heard about critical analysis in high school, my last year in Grade 12. My English teacher, who was fresh out of university was trying to close the gap between high school and university by teaching us about critical analysis and went out of the curriculum to do so.” Moreover, all seven Women and Gender Studies students first heard of ‘critical analysis’ in a Women and Gender Studies course while 70% of the Psychology students first heard of it in other disciplines such as Sociology or Anthropology. Interestingly, one Psychology major reported: “I first heard about critical analysis in a Women and Gender Studies class, it was Critical Race Theory in my second year.”

When defining ‘critical analysis,’ both Psychology and Women and Gender Studies undergraduates had a relatively informed definition of what it meant. Both groups of students used key terms such as: ‘dissect,’ ‘analyzing,’ ‘digging deeper,’ and ‘re-evaluating’ to define ‘critical analysis.’ However, the Women and Gender Studies students were able to provide longer, denser definitions and used vital keywords such as ‘deconstructing’ when describing ‘critical analysis.’ Moreover, Psychology students were more likely to relate ‘critical analysis’ with their course work than in their everyday lives. For example, Psychology major J.P. stated: “It means looking at a theory or concept in many different ways.” H.K. a fourth year Psychology student reported: “critical analysis means going into depth with your assignment.” Women and Gender Studies students were able to grasp holistic, in-depth definitions of ‘critical analysis’, applying them to various aspects of their lives, while Psychology students restricted these definitions to their discipline.

When asked how ‘critical analysis’ has been practiced in their courses, Women and Gender Studies students described how ‘critical analysis’ was used in essays, course readings, authors’ works, and popular media presented in class. A common pattern I found amongst WGS students was they recognized how critical analysis was practiced in all aspects of their discipline. Fourth year WGS student R.E. stated: “every paper is critical analysis, if we were talking about ‘Black Faces’ we had to take it apart, critically analyze the author’s thoughts and decide what was important and was not important.”
Moreover, another pattern I found amongst WGS students was they recognized how their WGS courses practiced critical analysis more often than in their other disciplines. Fourth year Women and Gender Studies student B.G. stated, “It’s not the same in my Crime, Law & Deviance courses; I’m not doing a lot of critical analysis. In my Women and Gender Studies courses, I am dissecting a theory or a piece of work by an author all the time.” Furthermore T.L. reported: “In Women and Gender Studies courses, you are critically analyzing your readings; you are interpreting differently and dissecting what authors are saying. Whereas in my Anthropology courses, of course it depends, but it’s more factual – there’s not enough courses to say critical analysis was there.” As for Psychology, students explained how ‘critical analysis’ was practiced through reading journal articles, labs and was practiced more in their upper year courses. Four Psychology students did not seem to understand how ‘critical analysis’ could be practiced within their discipline. For example, J.P. stated,

I don’t think you can practice critical analysis in Psychology. You can critically analyze an experiment but not really a theory. Critical analysis does not come up very often. In the courses that require you to look at a theory or look at studies and analyze it – that’s the only way. The higher-level classes require you to do that.

H.K. noted that: “Critical analysis is practiced in Psychology by reading journal articles and working them into my own words and saying them in my own words.” Therefore, WGS students were not only able to recognize how critical analysis was practiced in all aspects of their discipline but also found it was used more often than in their other disciplines. In contrast, four Psychology students did not seem to recognize how ‘critical analysis’ could be practiced in their discipline, and when they did – they explained it as being used only in their upper year Psychology courses.

Generally, students in both Psychology and Women and Gender Studies engaged in critical thinking with their course work, however there was a discrepancy between the two disciplines when asked if they engaged critically outside the classroom. All of the WGS students said they constantly critically analyze outside of the classroom. They stated that they critically analyze films, television shows, newspapers, Internet sources, and their social environment. When the WGS students were asked “if they engaged critically outside the classroom,” they were quick to reply “yes” and provided explanations without needing me to expand further. However, when I asked the Psychology students, I found myself expanding more on the question, provoking examples to generate thought, and repeatedly reminding them to think of something “not school related.” Therefore, I found that although the Psychology students stated that they engage outside the classroom, they either limited these explanations to their discipline or translated ‘critical analysis’ as ‘common sense.’ For example, H.K. answered: “Yes, I do. I analyze a lot of personalities and motives using the theories I have learnt in class. It really makes me question things and I try to basically understand it.” Furthermore, when asked “do you engage critically outside the classroom” J.P. responded: “well I mean if you critically analyze an argument but that’s just basic knowledge – its common sense. You look at a problem from different aspects, you look at each solution and choose the best one.” Although students in both Psychology and WGS recognized that they use critical thinking skills in their course work and stated that they would to use those skills once they graduated, there was a discrepancy between the two disciplines when students were asked if they engaged critically outside the classroom. WGS students acknowledged a vast realm of areas in which
they used critical thinking skills, while Psychology students reported using their critical thinking skills outside the classroom but limited the application of those skills to their discipline or translated ‘critical analysis’ as ‘common sense.’

Lastly, one common pattern I found amongst Women and Gender Studies students was although they all provided holistic, in-depth definitions of ‘critical analysis,’ a few students mentioned that professors have “never given a formal definition of it.” For example, T.L. said: “I don’t remember if a Professor has got into what critical analysis is, they assume you know in assignments. Maybe if you took a course in critical analysis?” Therefore, as recommended by authors such as Dunn et al., it is important to provide a clear definition of what critical analysis for students is in order to mitigate issues like T.L’s example.

**Future Suggestions and Conclusion**

In this final section, I will provide suggestions for students to improve their critical thinking skills, suggest ways in which academia can help, and what society as a whole can do to continue challenging students’ minds once they have left university.

“If there is one thing that all college and university teachers want their students to learn, it is to think critically.” Therefore, to ensure that students develop critical analysis skills, teaching critical thinking must be planned in order to be maximally effective – the earlier the planning can begin, the better. In a study by Arum and Roksa, they found that forty-five percent of students demonstrated no significant improvement in critical thinking skills – during their first two years of university. Dunn, Halonen, and Smith found that freshmen rated critical thinking as less important than other participants. In my independent research study, students did not seem to recognize how ‘critical analysis’ could be practiced in their discipline, and when they did – they explained it as being used only in their upper year courses. Therefore, in order to ensure students develop critical thinking skills, academia must implement strategies to include critical thinking from the very beginning, from first year courses.

As instructors piece their syllabi together before the academic term begins, they need to think about how to build critical thinking skills into their courses. Choosing textbooks, authors, and supportive materials which reflect the kind of approach to critical thinking they wish to adopt, will encourage students in developing critical thinking skills. Moreover, as Dunn, Halonen and Smith argue: “students appreciate teachers who tie classroom learning to everyday life.” Therefore, incorporating interesting examples of critical thinking or the lack of critical thinking in readings of everyday material (i.e. newspapers, magazines) will provoke dialogue and discussions amongst students. Secondly, instructors “should introduce the concept of critical thinking to student during the first week of class and let them know that a central part of the course will focus on helping them develop their powers of critical thinking.” The suggestion made by one of the WGS participants to “have a course in critical analysis” is perhaps a future investment that university departments can consider. In the meantime, teachers should provide definitions of critical analysis and thinking to students in the beginning of their courses.

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18 Ibid., 49.
19 Ibid., 54.
20 Ibid., 54.
Thirdly, throughout the academic term, instructors should follow up with what they have taught students about critical thinking in the first few weeks of class. They should set aside time each class to do critical thinking exercises, focusing on how it applies to a topic at hand. Additionally, teachers should ask students to work through problem-based scenarios in class and assess these exercises to evaluate if their students are developing critical thinking skills. As the academic term moves along, teachers should “consistently inject critical thinking into their weekly coverage of a subject matter and provide students plenty of practice in critical thinking through the use of well-crafted exercises, which may be completed in class or assigned as homework.”21

Although “just about every psychology textbook now addresses [critical thinking], though they may emphasize somewhat different specific skills and dispositions,”22 the findings I found provided evidence that Psychology students tended to show less understanding of what critical analysis skills are and how to integrate it into daily work. Many instructors in various disciplines have been reluctant to incorporate critical thinking activities into their courses because “they perceive the investment as too costly.”23 However, Psychology faculty members must acknowledge the discrepancy between Psychology students and WGS students in their critical thinking skills and be that much more determined to incorporate critical thinking skills into their courses. This is essential in informing student’s decision-making, problem solving skills and influence higher-level thinking. By using this study’s findings, the Psychology department can begin to focus on critical thinking skills and implement a framework to foster, encourage, and develop Psychology students’ critical thinking skills.

More importantly, “college-educated students should, among other things, learn to apply what they learn in their classes to solving problems that they encounter throughout their lives.”24 We as a society need to constantly challenge academia, by examining intimate yet fragile relationships between “the colonizer” and “the colonized”, “the oppressed” and “the oppressor”, and the teacher and the student. By adapting Paulo Freire’s notions from Pedagogy of the Oppressed and using Neil Browne and Stuart M. Keeley’s definitions from Asking the Right Questions: A Guide to Critical Thinking, we can begin to re-examine the relationship between the teacher and the student by proposing a new relationship between the dichotomies of the powerful and the powerless.

We must never underestimate the process of learning and what education can be and do for the learner. As Friere argues: “education makes sense because women and men learn that through learning they can make and remake themselves as beings capable of knowing – of knowing that they know and of knowing that they don’t.”25 Everyday, a learner experiences transformative knowledge, and when that happens – we become one-step closer to a world of critical thinkers, of knowledge producers, of empowered leaders.

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21 Ibid., 57.
22 Ibid., 11.
23 Ibid., 24.
24 Ibid., 56.
25 Freire, 74.
Works Consulted


Appendix A:

**Interview Questions:**

1. What is your year and major?

2. When was the first time you heard of ‘critical analysis’? What course/year/department?

3. How would you define ‘critical analysis’?

4. What does ‘critical analysis’ mean to you?

5. How have you practiced ‘critical analysis’ in your PSY/WGS courses?

6. In your PSY/WGS courses, how often does ‘critical analysis’ come up?
7. How have your Professors defined ‘critical analysis’ to you?

8. What is your experience with ‘critical analysis’? Do you notice yourself engaging critically with your course work?

9. Do you critically engage outside of the classroom? If so, how and where? If not, why do you think this the case?

10. When you graduate, do you think you will use the critical thinking skills that you have learned/developed in school?