

## Speed Bumps or Road Blocks? Students' Perceptions of Barriers to Learning and Developing Academic Resilience

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### Abstract

While we start out in life intrinsically curious, at some point throughout our journey from childhood to adulthood this curiosity begins to disappear (Berger, 2014; Lang, 2012). This is largely the result of various barriers and challenges, which can inhibit our willingness to explore our world (e.g., Kashdan, 2009). While the existence of barriers to curiosity has been documented (e.g., academic pressures, fear of failure), we have little insight into the lived experience of students' struggling to learn more independently. We, therefore, interviewed a group of third and fourth year undergraduates who had completed two "Curiosity Projects", once in second year and once in third/fourth year. In each semester-long "Curiosity Project", students chose their own topic, wrote ten weekly learning logs, engaged in weekly small group discussions and online feedback, created a final "fair" project, and reflected on their learning experience. The students we interviewed had also served as small group and online learning facilitators for junior students in the project for at least one semester demonstrating that they were deeply committed to the goal of independent, curiosity-driven learning. Analysis of these interviews suggests that despite positive experiences in their first Curiosity Project, most of these highly motivated students experienced unexpected challenges with knowledge/skill transfer. They differed, however, in how they perceived these challenges, as speed bumps or roadblocks. The environmental, personal and social pressures that impacted these perceptions and the students' ability to overcome the challenges they faced are the focus of this presentation.

**Keywords:** curiosity; inquiry; project-based learning; transformation

### Introduction

We enter this world as curious beings, constantly exploring the world around us (Slater, Morison, & Rose, 1982; Berger, 2014). As we grow and develop this same curiosity enables us to think critically and innovatively (Lang, 2012). In addition, it offers benefits in many different aspects of our lives, such as our physical and mental health and relationships (Kashdan, 2009). Despite the positive influence that curiosity-driven behaviours can have in our lives, studies have shown that for one reason or another curiosity often disappears as we age (Lang, 2012; Bronson & Merryman, 2010). Somewhere throughout our lives and academic journeys our interest fades and the number of questions we ask decreases (Lang, 2012). In fact, research has shown that there is a negative correlation between grade level and number of questions asked (Lang, 2012). This disheartening reality has led to multiple efforts to change the way learning happens within academia.

One attempt to transform students' learning experiences is the Curiosity Project, which was developed in an attempt to encourage student engagement and a sense of ownership over their learning (MacKinnon, 2016). Although historically MacKinnon's (2016) students were expressing enjoyment and experiencing success within her courses, she was concerned about more than just their grades on professor-driven tests and assignments. She wanted to give the students the opportunity to reignite their curiosity, to question, and to own their own learning. This desire led to the development of the Curiosity Project as a part of her second year Social Psychology course. The incorporation of this project appeared to be having initial success in transforming students' engagement and experience within the scope of the 200-level course. In fact, students were so enthusiastic about their curiosity projects and learning how to learn, that they requested similar opportunities. This led to the development of a 400-level seminar class surrounding the construct of curiosity, which included the opportunity to engage in a second Curiosity Project. This paper focuses on ways in which the two opportunities were experienced differently and discusses the importance of thinking of curiosity, an inquiry project, as a part of a larger curriculum and not simply a "one and done" experience.

### ***The Curiosity Project in a Nutshell***

The Curiosity Project allows each student to select any topic within the field of social psychology or question that may be informed by it and explore it in depth over the course of the semester (MacKinnon, 2016). The three main elements of the project include: *weekly learning logs, online and in person feedback, and a final project and reflection*. Students document their learning in the form of weekly, informal learning logs, using a freewriting (Li, 2007) or writing to learn (Fry & Villagomez, 2007) approach. Logs are discussed in small groups and posted online to allow students to get feedback on their projects from their peers and learning facilitators face-to-face in the moment and online after further consideration (MacKinnon, 2016). This feedback provides students with new questions, perspectives and ideas to explore and helps students think critically about their topics. Finally, the students conclude the semester with a project and reflection, which provide them with the opportunity to creatively share and reflect upon their learning with others.

Initial explorations of the impact of this project on students have demonstrated positive results. MacKinnon (2016) found that students who participated in the Curiosity Project became better able to 1) learn both deeply and more broadly about their topics, 2) focus on the journey of learning instead of regurgitating information presented by the professor, 3) discover and think critically about their personal assumptions, preconceptions and questions regarding their topic, and 4) experience an investment in their own learning as well as in helping others through offering feedback. While this project significantly added to students' typical workload outside the testable material for the course, students performed just as well in the course quizzes and tests as students who did not have the extra project requirements (MacKinnon, 2016). More importantly, this project was successful in its goals of increasing student engagement in their own learning and fostering critical thought, question development, and exploration skills.

For the majority of students this was the first time they experienced this type of curiosity-driven learning within their undergraduate degrees. Their positive experiences inspired many to return to the course as volunteer learning facilitators for incoming cohorts. Out of these students, a small group of third and fourth year students were given the opportunity to participate in a modified, 400-level curiosity project. One of the goals of this senior course was to determine whether the skills learned in the first project were transferable to this second project. In exploring the nature of their 400-level Curiosity Project experiences researchers were left with the following questions: 1) What barriers and challenges were present in the first project and how were they addressed? 2) What skills were learned

in this first project? 3) How did the second project differ from this first experience, specifically in terms of barriers and challenges experienced? 4) Were participants able to transfer the skills learned in the first project into their experience with their second project? and finally 5) To what extent are projects like this a one-time fix for engaging student curiosity?

## Method

In order to explore whether or not students had a similar positive experience of the Curiosity Project the second time around, we conducted semi-structured interviews with a unique group of highly motivated and invested individuals, who were recruited from the course "PSYC 432 Curiosity: Theory and Practice" (Boyle, 2015). This 400-level seminar consisted primarily of students who had completed a Curiosity Project in the past and who had served as volunteer learning facilitators for at least one semester. The Curiosity Project component of the course occurred as it had the first time except there were no assigned learning facilitators; instead students were expected to actively give their peers feedback.

All eight students who volunteered were female and either in their third or fourth year of their undergraduate degrees (Boyle, 2015). Semi-structured interviews were conducted with each participant, with a focus on exploring the nature of participants' first and second experiences of the curiosity project, the presence of any difficulties in either project, and any evidence of personal growth. The interviews were then transcribed and analyzed using a qualitative, phenomenological approach.

## Findings and Discussion

We first confirmed that for these participants, their first project was an unqualified positive and successful experience (MacKinnon, 2016). Any barriers or challenges students faced were overcome without lasting negative impacts on their learning or projects (Boyle, 2015). We refer to this experience of barriers as *speed bumps*. On the other hand, within the second project there was much greater variation in terms of participants' experiences. While a few had an experience similar to their first, the majority of participants were overwhelmed by the presence of *roadblocks*. In contrast to speed bumps, roadblocks occurred when the students faced barriers and were not able to overcome them. Instead the challenges impeded and hindered their learning within the project.

### ***The Curiosity Project: Round One***

In the first Curiosity Project, participants either experienced the project barrier-free or they faced and overcame barriers without any significant impact on their learning (Boyle, 2015).

Students who did not experience any barriers or challenges to their learning attributed this absence of difficulties to an overarching ownership, confidence and passion for learning about their topics. They also maintained open and positive mindsets about the project itself.

*...It's as if you need that kind of confidence in yourself, in your project, and just in the whole method...I'm...now in this movement of own your own learning!* (Boyle, 2015, p. 41)

This self-awareness and confidence suggests that for some students the initial Curiosity Project experience was sufficient to reignite and maintain their curiosity and ownership of learning.

Students who did face difficulties in their first Curiosity Project experienced them as speed bumps, which they overcame without significant influence on their projects and learning. These included a

perceived lack of structure, anxiety stemming from a desire to complete the project the 'right' way, or the experience of phenomenon they referred to as 'hitting a metaphorical wall' (Boyle, 2015).

Many students struggled particularly with the openness and freedom of the project itself, which was interpreted by many as an absence of structure (Boyle, 2015). The informal, 'free writing' nature of the learning logs along with no word minimums or maximums (MacKinnon, 2016) contributed to students feeling overwhelmed by a lack of structure within the project (Boyle, 2015). The surrounding and prevailing academic environment that rarely allows space for this kind of thought and learning contributed to students perceiving the project this way. In reality, the project had a very specific structure, consisting of weekly learning logs, feedback, and a final reflection (MacKinnon, 2016). However, the nature of this project differed from what students were accustomed to. In addition, students were given the freedom to choose their own topics instead of being assigned one, which could have contributed to this perception.

*...you're not used to how...loose it can be...I was always trying to make it a research paper because my background is more science... (Boyle, 2015, p. 39).*

Students who felt themselves influenced by a lack of structure, regardless of the source, were able to overcome this difficulty easily through a period of adjustment (Boyle, 2015). By giving themselves time to settle into the project, they adjusted to its open nature and were able to continue to learn within the scope of their project. Mindy expressed the importance of this period of adjustment:

*...it's kind of like when a baby foal gets up and they are wobbling for the first little bit...And they get their footing. I think that's...what I was like the first few weeks—wobbling. But within a few weeks I just ran with it (Boyle, 2015, p. 39).*

Feedback and support within the Curiosity Project were also important factors in helping students overcome these barriers (Boyle, 2015). This is increasingly evident as we consider the following two barriers that participants faced and how feedback from others enabled them to overcome these difficulties.

Within the first project, students were concerned with completing the project the 'right' way (Boyle, 2015). While the project structure naturally led to endless possibilities in terms of how to complete the project, students experienced an internal pressure to do it 'right.' Many felt that they should be completing the project in a similar fashion to a standard research paper, which limited their exploration of their topic. For example, they felt that they needed to explore primarily academic sources and write their learning logs in a formal manner pursuing support for an a priori thesis statement. In fact, the Curiosity Project is meant to encourage students to seek a wide range of types of sources, varying from speaking to others, consulting blogs, academic papers, or simply reflecting on their personal thoughts or preconceptions (MacKinnon, 2016). Students were able to overcome this pressure through the support and feedback of the professor. Laura indicated:

*...as I started to get more feedback...I started to branch out a little bit more...I sort of let that anxiety go a bit [and] I was able to really open my perspective (Boyle, 2015, p. 40).*

Formative feedback allowed her to let go of her anxiety and desire to be 'right' and instead follow the winding road of discovery that the Curiosity Project encourages. In this way, the desire to be 'right' acted as a speed bump for Laura, as it did not have a lasting impact on her learning.

The support and feedback from others was also an important factor in overcoming additional barriers, such as 'hitting a metaphorical wall' (Boyle, 2015). This idea of hitting a wall was described by one participant as a point in her learning where she had "exhausted a lot of [her] topic" (Boyle, 2015, p. 41). When students felt themselves run out of novel perspectives and subtopics they were able to overcome this difficulty by getting a fresh outlook from others' feedback. Through the support and feedback of others, students were able to move past this difficulty and continue within their curiosity projects.

The first project was considered a successful experience for all eight participants (Boyle, 2015). Any difficulties faced took on the form of speed bumps and participants were able to learn and employ various strategies in order to overcome them, such as allowing themselves the space to adjust to the project and relying on the support of others. For some, however, their second experience differed significantly from their first.

### ***The Curiosity Project: Round Two***

After the positive and successful experiences that participants had within their first Curiosity Projects, they enthusiastically began their second projects in the 400-level course (Boyle, 2015). Ultimately, participants within the second project fell into three broad categories: 1) one student who did not experience barriers and challenges, 2) two students who experienced barriers and challenges as speed bumps and continued to have successful projects and 3) five students who experienced barriers and challenges as roadblocks and were unable to overcome them over the course of the project (Boyle, 2015). Since the experiences of individuals within this first and second categories mirrored their first projects, we will focus on the third group, who experienced impeding barriers to their learning and curiosity.

Ironically, many of the difficulties that students saw as road blocks in the second project resembled or were related to those experienced and successfully overcome within their first projects. For example, participants experienced difficulties surrounding the structure of the project and course, a desire to do the project 'right', and the experience of hitting the wall again during their second Curiosity Projects. While students had demonstrated the skills and mindsets necessary within their first projects to overcome the barriers and challenges, they were unable to apply these abilities to overcome those faced in their second projects. Why did these barriers become roadblocks instead of speed bumps within participants' second projects?

In speaking with participants about their second projects it quickly became evident that those who experienced roadblocks had a regression in attitude, an absence of passion, and a lack of novelty, and were overwhelmed by self-inflicted social comparison. These keys factors contributed to what caused speed bumps to transform into roadblocks and led to this subgroup of students describing their second projects as frustrating and disappointing failures.

### ***Violations of expectations about the project and themselves***

Students came into the second Curiosity Project with specific expectations about how their projects would unwind over the course of the semester (Boyle, 2015). Although the specific preconceptions that each individual participant experienced varied greatly, the presence and violation of these expectations had a significant role in turning barriers into roadblocks within the participants' projects. Participants' expectations were centered around not only the project as a whole, but also on their individual abilities and skills within the project.

Initially participants expected that the second projects would be essentially repeats of their first experiences (Boyle, 2015). These expectations not only left some participants feeling disappointed and frustrated, but also hindered their ability to be curious within the project. In hindsight participants were able to acknowledge that their expectations had a negative impact on their projects, but were unable to see the crippling effect during their second project.

*...I went into my second [project] really anticipating that kinda life changing experience again and I didn't have that... you can never re-experience something for the first time (Boyle, 2015, p. 44).*

In addition these students had expectations relating to their personal performance and identity as curious individuals (Boyle, 2015). The students participating in this second project were individuals who accurately identified themselves as curious individuals. They had participated in the first project and had positive, successful experiences. In addition, they had acted as learning facilitators and had actively guided other students successfully through the process. However, this success and sense of identity led to a perceived pressure to be curious within the second project. Sydney, for example, felt invigorated within her first project. She felt herself actively 'living' her curiosity and genuinely felt 'in love' with her topic choice. These experiences translated into expectations for how she would feel about the second project and her performance within it. When she did not feel this engagement and love within her second project she "*felt like I was failing myself at it the second time...*" (Boyle, 2015, p. 43).

Natalie had extremely high expectations for herself in terms of her abilities and performance within the course (Boyle, 2015). When she was unable to meet these expectations she discontinued her learning logs, which ultimately led to a sense of failure and disappointment with herself and her project.

*...my expectations...were really high for myself...because it was almost like a point of pride...It's like I have to be able to do a good job on this. I did a good job the first time... (Boyle, 2015, p. 43).*

Natalie's success in the first project crippled her when she began to struggle within the second one (Boyle, 2015). Unfortunately her pride and desire to succeed put a pressure on her that contributed to her experiencing difficulties as impassable roadblocks.

Participants expected that their second projects would be smooth sailing and immediately successful (Boyle, 2015). However, when reflecting on their first projects they mentioned difficulties and speed bumps and were able to touch on how they were able to overcome them. Not only was the expectation that the project would flow seamlessly inaccurate based on their first projects, but it ultimately contributed to a change in attitude relating to the project. They no longer faced a barrier and found a way to overcome it; instead it blocked their learning over and over again. In some senses, it appears that participants idealized the project, which caused increased pressure when their projects did not follow a clear and easy path.

### *Change in life space and future orientation*

Although participants' expectations were legitimately based on their first experiences of the curiosity project, these preconceptions of the projects were no longer necessarily appropriate given the change in their 'life space' (Boyle, 2015). More specifically, when students began their second project they were now either in their third or fourth years of their undergraduate degrees and with this change in academic standing came a change in priorities and orientation, which contributed to the experience of barriers and challenges within the second curiosity project turning into roadblocks.

It was evident that a major factor in determining the nature of their second project was a pressure that seems to impact many third and fourth students, 'future orientation'. As many participants were in the process of applying for graduate school or determining their next career step, they became increasingly aware of their academic performance, their honours projects, and other resume boosting activities. As Mindy pointed out "*there's so much high stress...*" (Boyle, 2015, p. 46).

Many students felt overwhelmed by the stress of the surrounding academic environment and felt this influenced their curiosity projects despite understanding based on previous experience that the curiosity project was meant to be an escape from the overarching stresses and pressures of the academic system. Due to the change in life space and accompanying future orientation students felt these stresses along with a hyper focus on academic performance become a part of their projects.

*...when I took the fourth year curiosity project I was applying for grad school...and doing my thesis concurrently...I think I was really aware during those weeks and those months that, okay, yes, this is the curiosity project and I shouldn't really be concerned with my marks and I should be focusing on my learning, but when you're actually actively going through that process at the same time it's pretty intimidating (Boyle, 2015, p. 46).*

Over the course of the interview, Mindy repeatedly expressed the inhibiting presence of pressure and stress relating to her performance in not only her project and coursework, but also her honours project. In fact, these pressures resulted in her feeling as though she "*never had enough time...[or] enough drive to really engage in [her] curiosity*" (Boyle, 2015, p. 46).

Natalie, another fourth year, honours student, also experienced the detrimental influence that this future orientation had on her project. In fact, Natalie felt her project completely collapse within the first few weeks. A big contributing factor to this was the change in attitude and stress that she experienced:

*I basically stopped doing [my project]... [because] things with my Honours and my other courses just started to take hold and I was constantly putting it off and I was so stressed (Boyle, 2015, p. 47).*

The influence of this roadblock was not limited to fourth year, honours students, but was also experienced by some participants with third year standing. For example, Ashley also felt this future orientation affect her learning and curiosity within her second Curiosity Project:

*...I was motivated, but...the third year... was just tough...I wanted to go to graduate school and I [had] to get good grades. So I was motivated, but I just wasn't curious enough to do my curiosity project [and] just to put time and effort into [it] (Boyle, 2015).*

Through exploring participants' experiences of the second Curiosity Project it quickly becomes evident that there was a dramatic shift in perspective and focus from the first project to the second. Students no longer experienced the project as a break from other coursework, but instead felt the pressures of the prevailing academic system and a hyper focus on their future—both academic and professional—seep into every aspect of their projects. This naturally led to a change in attitude and outlook towards the project and had an influence in how speed bumps were transformed into roadblocks within the scope of the second project.

### *Absence of passion*

Within the first project, many participants described the presence of a passion or ‘magical curiosity’. For many this passion allowed them to enthusiastically take ownership over their learning, feel in love with their project, and feel curiosity pervade into every aspect of their lives.

*...when you...have that [magical curiosity]...you can actually live your project [and] doing the work is really not that time consuming because you actually have fun doing it (Boyle, 2015, p. 44).*

Within the second project these same individuals felt the absence of this passion have a detrimental influence on their ability to be curious. Instead of feeling passionate, participants felt the project become “more of a chore” (Boyle, 2015, p. 45). Even those who did not specifically refer to this absence of passion or ‘magical curiosity’ appeared to have experienced it from the tone and manner with which they described their projects. It is likely that this lack of passion was closely related to their high expectations and hyper focus on grades. In fact, it was a significant contributor to the presence of roadblocks within participants’ second experiences.

### *Lack of novelty and meaningful challenge*

Many students chose topics that were familiar to them in one aspect or another and for this reason they experienced a lack of novelty within their project. Participants who did this selected topic choices that were either 1) expansions of some aspect of their life (personal or academic) or 2) a continuation of their first curiosity project. While successful participants may have chosen these topics for various intrinsically meaningful reasons, those who struggled appear to have thought that these were ‘safe’ or ‘easy’ options for their projects. In the end, however, the lack of novelty had a significant role in shaping the outcome of their projects. Several participants felt discouraged, frustrated, and disappointed with how their projects were progressing. One participant, who chose a topic that was a continuation of her first, expressed this in the following way: “...I wasn’t challenged enough necessarily” (Boyle, 2015, p. 51). On the other hand, another participant who chose her topic as an expansion of her personal life found the topic to be draining and difficult.

*...it’s hard because you look at this stuff, this is your life, this is your personality, this is you and it’s... hard to research that and to be curious about that when you don’t want to admit it to yourself... (Boyle, 2015, p. 51).*

The close nature of the project also inhibited them because they “had a lot of pre-existing knowledge.” (Boyle, 2015, p. 52). While they expected positive experiences to come from their choices, participants instead found their topics increasingly difficult. They were unable to find novelty and meaningful challenge to engage their curiosity within their topics, which contributed to the fact that the difficulties they faced took on the form of roadblocks which inhibited their curiosity.

### *Perceived social comparison*

The group in which participants completed their second curiosity project naturally had a significant influence over how they experienced it. This group had a positive impact on some, who described the group as ‘tight knit, supportive and ‘therapeutic’ (Boyle, 2015, p. 48). However, others experienced a change in attitude due to a perceived social comparison.

While discussing her second project, Sydney repeatedly spoke of the pressure that she felt from the group. She felt an expectation or pressure from others to be curious. While she knew that this pressure was self-inflicted, she felt this social comparison have a dramatic influence on her project.



*It was like there was all this pressure on me that hadn't been there before, but it wasn't directly on me. I just put it on myself because I felt like there was a lot expected from what other students knew about me... (Boyle, 2015, p. 49).*

In a similar manner, other students felt themselves “*putting more value in what they [the other students] thought...*” (Boyle, 2015, p.50). The presence of this perceived pressure to impress their peers had a negative impact on participants' abilities to overcome barriers and challenges as they arose and contributed to the transformation of speed bumps into roadblocks. Instead of relying on the group for support and feedback, participants in some cases isolated themselves from this group. The irony of this finding is that the support and help was present within the project, but participants were overcome with a sense of paralyzing pride, which contributed to their inability or unwillingness to seek support from others and their perception of a social comparison within the group.

## **Conclusion**

The Curiosity Project is an attempt to increase student enjoyment, passion, and motivation within a Social Psychology course. While the first project was successful in meeting these goals for all participants, the second experience varied significantly. Although some individuals had positive experiences within their second projects, this was not the case for all. Those who had successful second projects demonstrate that for some students a one-time experience can help shape their attitudes and approaches to learning. However, many participants within the second project were not able to overcome barriers as they arose and instead were faced with impeding roadblocks, which contributed to negative and frustrating experiences. While this sub-group of participants learned and had demonstrated appropriate ways to face difficulties as they arose within the first project, they were unable to transfer these skills to the second project. A number of factors appeared to contribute to this absence of skill transference, including the following: 1) a change in attitude based on experience, 2) a change in attitude based on life-space and future orientation, 3) the absence of passion, 4) the lack of novelty in topic choice, and, finally, 5) the influence of a perceived social comparison. Ultimately, these factors transformed barriers from speed bumps into roadblocks. While the presence of the roadblocks in the second curiosity project signifies that this project does not offer a long-lasting solution to the neglect of curiosity within the prevailing academic system, it has important, practical implications that need to be kept in mind for those looking to implement such a project into their curriculums.

Based on the experience of participants it is clear that we need to give students repeated opportunities to learn in an environment that fosters curiosity-based inquiry. By allowing students to have multiple experiences of this sort integrated into their education and life more broadly, we allow them to learn how to learn instead of teaching them to simply regurgitate information. Furthermore, by allowing students to see variations of this project in different contexts they may have the opportunity to learn skill transference.

Additionally, skills appear to be unable to overcome the influence of expectations and perceptions. While students had and knew how to use the skills to overcome barriers, in their second project they perceived themselves as powerless to make any change due to their perceptions and expectations of the project. This perception highlights that skills do not matter without a desire, willingness and environmental support to use them. While participants' experiences varied, all who struggled within the scope of the second project were unable to make use of the skills they had acquired for a multitude of reasons. By focusing on creating environments that support the learning of students and that make room for the improvement of their learning, we can help create a supporting atmosphere. It is, therefore, important for us to stop giving them the questions and the answers and instead to focus on

giving them the opportunities to learn how to ask those questions and seek the answers. It also means giving them these opportunities frequently and understanding that a one-time success does not necessarily carry over to future endeavors.

In summary, the Curiosity Project, while initially successful, is not a one-time fix. Students need multiple opportunities to engage in inquiry- and curiosity-based learning in varying situations and contexts to enable them to learn how to question and seek answers within all aspects of their lives. Finally, it is important to focus on fostering the desire, willingness and supportive environment to allow students to take part in this active, intrinsically motivated learning style. Ultimately, what we can do to encourage student engagement and motivation is to give them more projects like the Curiosity Project over the course of their education.

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