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Can Instructor Feedback and Failure Dialogues Reduce the Stigma of Failure and Encourage Help-Seeking? An Interdisciplinary Undergraduate Perspective

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Can Instructor Feedback and Failure Dialogues Reduce the Stigma of Failure and Encourage Help-Seeking? An Interdisciplinary Undergraduate Perspective

Abstract

Experiencing failure is an important part of the learning process, but undergraduate students often hold a negative perception of failure that may contribute to fear of failure and risk avoidance. We investigated the influence of instructor feedback, discussions of failure in the classroom, and course-level and institutional structures on students' view of failure across disciplines. Undergraduate students at the University of Toronto Mississauga participated in an online survey (n = 304) consisting of Likert-scaled and open-ended questions on perceptions of failure, experience with instructor feedback, likelihood to engage in help-seeking, and course- and institutional-level suggestions to support learning from failure. When instructors discussed with their students how to best respond to feedback, students were more likely to view small failures as a helpful part of the learning process. Further, when instructors discussed strategies to best respond to failure, students were more likely to view failure as helpful for learning and less likely to view weak performance early in a course as an indication of future weak performance. Student-identified strategies to better support resilience included improved communication between students and instructors, in peer-to-peer conversations, and by the institution more broadly. Across all three areas, students expressed a desire for systems of higher education to destigmatize failure through changes in both rhetoric and policy. This suggests the incorporation of meaningful conversations and failure narratives in the classroom and beyond are effective strategies to encourage the development of resilience-based skills. Such discussions may help students engage positively with failure and maintain willingness to engage in future challenges.

L'expérience de l'échec est une partie importante du processus d'apprentissage, mais les étudiants de premier cycle ont souvent une perception négative de l'échec qui peut contribuer à la peur de l'échec et à l'évitement des risques. Nous avons étudié l'influence des commentaires des enseignants, des discussions sur l'échec en classe et des structures institutionnelles et au niveau des cours sur la perception de l'échec des étudiants dans toutes les disciplines. Les étudiants de premier cycle de l'Université de Toronto Mississauga ont participé à un sondage en ligne (n = 304) composé de questions ouvertes et à l'échelle de Likert sur les perceptions d'échec, l'expérience avec les commentaires des instructeurs, la probabilité de s'engager dans une recherche d'aide et les cours et suggestions au niveau institutionnel pour soutenir l'apprentissage de

l'échec. Lorsque les instructeurs discutaient avec leurs étudiants de la meilleure façon de répondre aux commentaires, ceux-ci étaient plus susceptibles de considérer les petits échecs comme une partie utile du processus d'apprentissage. De plus, lorsque les instructeurs discutaient des stratégies pour réagir au mieux à l'échec, les étudiants étaient plus susceptibles de considérer l'échec comme utile à l'apprentissage et moins susceptibles de considérer une mauvaise performance au début d'un cours comme une indication d'une mauvaise performance future. Les stratégies identifiées par les étudiants pour mieux soutenir la résilience comprenaient une meilleure communication entre les étudiants et les instructeurs, dans les conversations entre pairs et au sein de l'établissement de manière plus générale. Dans ces trois domaines, les étudiants ont exprimé le souhait que les systèmes d'enseignement supérieur déstigmatisent l'échec grâce à des changements à la fois dans la rhétorique et dans la politique. Cela suggère que l'intégration de conversations significatives et de récits d'échecs en classe et au-delà sont des stratégies efficaces pour encourager le développement de compétences basées sur la résilience. De telles discussions peuvent aider les élèves à réagir positivement face à l'échec et à maintenir leur volonté de relever les défis futurs.

Keywords: learning from failure, higher education, resilience, help-seeking, feedback

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Failure is a critical part of the learning process as it identifies gaps in knowledge, provides opportunities to reflect upon and modify study habits, and increases the understanding and retention of concepts on later evaluations (Brown et al., 2014; Kapur, 2008; Simpson & Maltese, 2017). Despite these benefits to learning, a disconnect exists in undergraduate education: students may recognize the value of failure for their learning, but they maintain a fear of failure and risk avoidance (Bledsoe & Baskin, 2014). This fear may lead to the use of coping techniques that further undermine academic performance such as lack of goal-setting or self-motivation (Bledsoe et al., 2018; Henry et al., 2019; Robotham & Julian, 2006). As such, there exists a need to reimagine institutional structures of higher education to acknowledge the stressors students face, support students in embracing and learning through failure, and better foster skills of resilience.

The benefits of learning from failure have been explored in K-12 and post-secondary settings, and the use of productive failure techniques is well-established as an effective pedagogical strategy to support student learning (Bjork & Bjork, 2011; Kapur, 2008, 2015). For example, incorporating "desirable difficulties" in assessments can help students experience challenges, thus providing opportunities to engage with and productively respond to failure (Bjork & Bjork, 2011). Similarly, Kapur (2015)

identifies the learning benefits of having students engage with tasks beyond their skill level, try, and fail as a means to improve understanding and retention of concepts.

Mindfulness interventions, in the form of workshops and reflective homework assignments designed to target test anxiety, have also been shown to reduce the negative emotions associated with failure before a challenge (Hjeltnes et al., 2015). However, empirically supported strategies to foster student resilience can go beyond assessment-based interventions. The value of narrative as part of the reflective learning process has been well documented, especially in the fields of nursing (Levett-Jones, 2007) and medicine (Brady et al., 2002), and prior scholarly work has shown the benefits to failure narratives in the classroom. For example, student perspective surveys on decreasing the stigma of failure found that students have clear ideas of what support would look like, both within and outside the university context. One major theme identified in the literature was students' desire for discussions of failure in learning to be normalized in both academic and non-academic settings (Nunes et al., 2021).

It is important to note, however, that advice to take learning risks or "fail forward" have not always been followed by structural support to guide students in reflective learning. Generally, there is little research on how instructors can encourage undergraduate students to embrace failure in the context of an institutional structure that historically penalizes failure. As Fiegenbaum (2021) has noted, instructors have often told students the benefits of failure while modelling behaviours that actively avoid failure. As we explore the pedagogical value of learning through failure, it is critically important that we also acknowledge the power and privilege of being able to embrace and bounce back from failure. Prior work has shown that there are several core intersecting themes of power and privilege and learning through failure including resources and support, status and rank, positionality, and institutional policies (Ross et al., 2022). These factors need to be considered within the broader socio-cultural contexts that situate the institution and learning environment, including stigma of failure, stakes of failure, resilience discourse, and social inequality.

We examined the relationship between communication, failure, and student willingness to embrace and learn from failure. We investigated whether more robust communication could help shift students' mindsets and negative perceptions of failure, thus changing how students approach risk-taking, experimentation, and learning from/reflecting on failure. Communication from instructors and the institution is central to (1) de-stigmatizing failure, (2) helping students feel more comfortable with failure and to learn how to harness it for greater learning and growth, and (3) promoting and protecting student mental health and well-being. Through discourse and policy, instructors and institutions can demonstrate twin commitments to helping students embrace and learn from failure and fostering student well-being. In this study, we define communication widely to encompass the varied modes through which communication with students takes place (i.e., classroom lecture, office hours, email) as

well as the institutional strata across which communication occurs (i.e., between students, students and instructors, and students and the institution).

Methodology

Institutional Context

The University of Toronto Mississauga (UTM) is located in the diverse urban municipality of Mississauga, Ontario, Canada. It is a Research-1 university that hosts approximately 15,000 undergraduate students. Of note is the program of study system at UTM. Students enter the university in a generalized stream and apply to their desired program of study at the end of their first year. Programs are tiered according to competitiveness and selection requirements. While some programs have few requirements for admission (e.g., English, religion, and history), other programs demand outstanding academic performance from prospective students and enforce cumulative grade point average (CGPA) cut-offs (e.g., computer science and business). This system introduces high stakes for students entering university: although students may have been accepted into the university itself, they have not been (nor will they know with any certainty) that they have been accepted into their preferred course of study until the end of their first year.

Survey Administration

An online survey was made available for three weeks in Spring 2021. The survey was distributed via listservs and learning system course announcements by participating faculty members from multiple disciplines, and all currently enrolled undergraduate students were eligible to participate. Participation was voluntary and students were informed they could exit the survey at any time. As an incentive to participate, students had the option to enter a draw for a chance to win a $100 gift card. All survey responses were anonymous; the identifying information provided for the gift card draw was stored separately from survey responses and deleted upon completion of the draw.

Response Rate

Responses from 304 undergraduate students were received. 74.7% self-identified as women, 21.1% as men, and 3.9% as non-binary. This is consistent with gender distributions seen in voluntary recruitment surveys at other post-secondary institutions (Porter & Whitcomb, 2005). Similarly, respondents in their first year of undergraduate studies were overrepresented (65.1%). This can be attributed to the size and composition of the courses in which the survey was distributed. Instructors involved in this research circulated the survey in first year and upper-level courses. While the survey was distributed to students across a range of academic years, first-year introductory courses enroll significantly larger numbers of students than do upper-level

seminar courses. Therefore, more first-year students received an invitation to the survey than did students of any other year.

Represented disciplines include science, technology, engineering, and mathematics (STEM) (n = 104), social sciences (n = 43), psychology (n = 31), humanities (n = 29), communications, culture, and information technology (n = 19), fine arts (n = 19), and business, management, and commerce (n = 18). Some students identified as having an undecided major (n = 16) or were classified as cross-disciplinary if they listed a double major or major/minor that transcended more than one of the aforementioned categories (n = 20). Five students provided non-specific descriptions of their program (e.g., "Bachelor of Arts").

Respondents were grouped into "program types" based on their reported program. Type One were programs that had no CGPA restrictions and unlimited spaces. Type Two were programs with a minimum CGPA requirement and unlimited spaces. Type Three were programs with a minimum CGPA requirement and limited spaces. Students with an undecided major were assigned to a fourth group for analysis.

Survey Questions

Survey questions evaluated students' perspectives of failure and their experience with feedback and help-seeking in their courses. Questions related to failure perspectives (e.g., "I find small failures or frustrations in class assignments and activities can be helpful for learning course concepts") were asked on a seven-point Likert scale: strongly disagree, disagree, somewhat disagree, neutral, somewhat agree, agree, and strongly agree. Questions related to instructor feedback and help-seeking (e.g., "My professors speak about how to respond to their feedback") were asked on a five-point Likert scale: never, rarely, sometimes, often, always. Finally, through open-response questions students suggested ways that (a) instructors and (b) the institution can help students embrace and learn from failure.

Data Analysis

Spearman rank correlations were used to detect relationships between Likert-scaled responses, and Kruskal-Wallis chi-square tests were used to determine differences in responses among degree/program types. Statistical analyses were performed in R, ver. 4.1.2 (R Core Team 2021). Open-response survey questions were analyzed according to Creswell's qualitative coding protocol (Creswell, 2012). Each response was categorized by theme and subtheme, with a coding ledger developed to track and standardize language. Three members of the research team coded responses by participant and by question to compare the range of perspectives. Per Miles et al. (2020), coding was completed iteratively to record any themes or subthemes not initially documented. When appropriate, responses were categorized with multiple themes

and/or subthemes. Identified themes were used to construct a list of pedagogical strategies and suggested modes of implementation at the course and university level.

Ethics

This research was approved by the University of Toronto Mississauga Delegated Ethics Review Committee in February 2021.

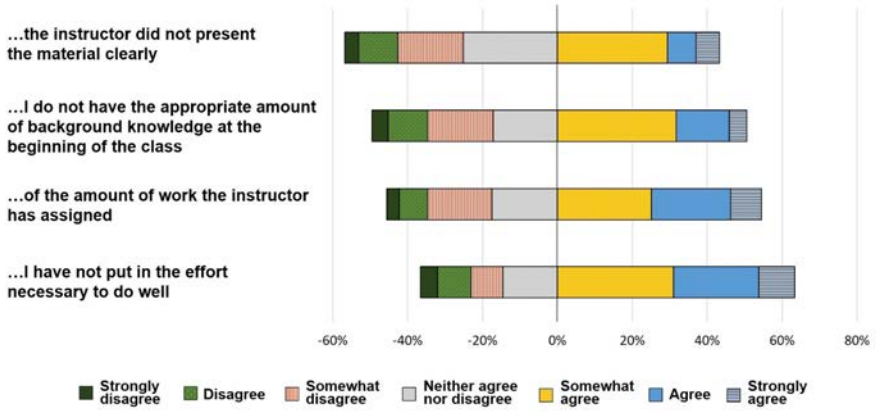
Results

Perspectives on Failure

When provided with the prompt "When I feel unsuccessful in a course, it is usually because…" most students agreed with the response "I have not put in the effort necessary to do well" (n = 304, 63.4%; see Figure 1). This was followed by the amount of work the instructor assigned (n = 304, 54.5%), a lack of appropriate background knowledge (n = 304, 50.5%), and the instructor not presenting material clearly (n = 304, 43.2%). When selecting courses, most students will take a challenging course if the content is interesting or compelling, (n = 304, 75.6%; see Figure 2). However, course averages do play an important role in whether most students are interested in taking a class (n = 304, 52.8%), and most will seek out easy courses when satisfying requirements outside of their program (n = 304, 67.3%). When asked whether their perspectives of failure have become more negative ($r_{303} = 0.08$, $p = 0.181$) or positive ($r_{303} = -0.06$, $p = 0.283$) over time, no significant relationships were found with academic year of study.

Figure 1

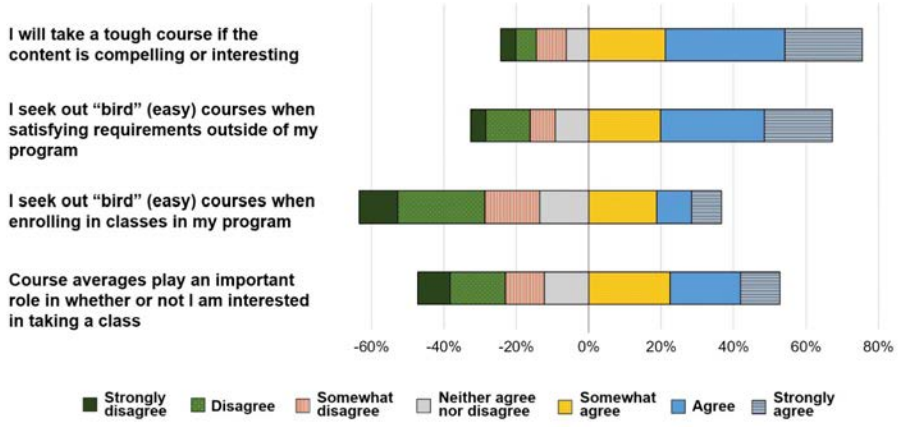
Undergraduate Student Responses to the Prompt, "When I Feel Unsuccessful in a Course, it is Usually Because…"



Note: A descriptive table is provided detailing the response categories at the end of this article.

Figure 2

Undergraduate Student Opinions on Course Selection Motivations



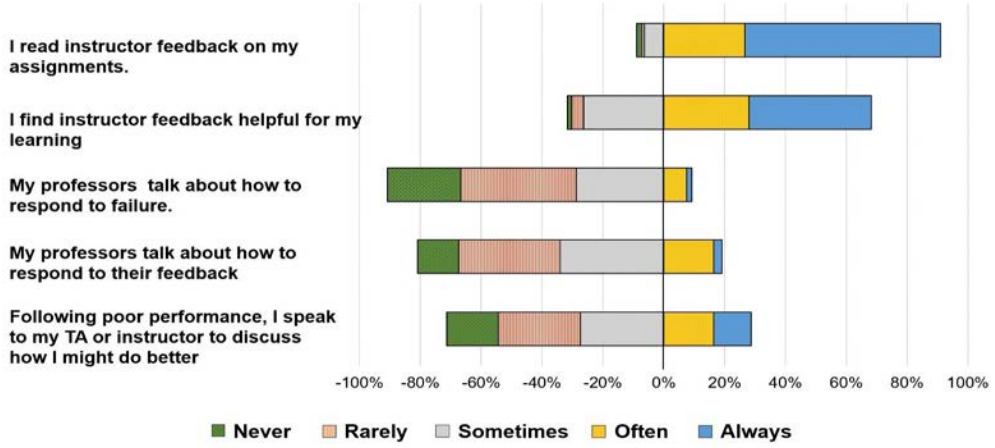
Note: A descriptive table is provided detailing the response categories at the end of this article.

Instructor Feedback and Failure-Based Discussions

Most students regularly read instructor feedback on assignments (n = 304, 91.1%) and find it helpful for learning (n = 304, 68.3%; see Figure 3). However, few of the respondents' professors discuss how to respond to assignment feedback (n = 304, 19.1%) or productively respond to failure (n = 304, 9.2%). When professors discussed how to respond to failure, those students were more likely to view small failures as helpful to learning ($r_{303} = 0.16$, $p = 0.006$) and less likely to agree that weak performance early in a course is an indication they will not do well in the course overall ($r_{303} = -0.12$, $p = 0.043$). Similarly, when professors discussed how to respond to assignment feedback in their class, students were more likely to view small failures as helpful to learning ($r_{303} = 0.14$, $p = 0.012$).

Figure 3

Students' Perspectives on Instructor Feedback, Failure-Based Discussions, and Help-Seeking in their Classes



Note: A descriptive table is provided detailing the response categories at the end of this article.

Interdisciplinary Differences

Perspectives of failure were analyzed relative to program type (i.e., Type One, Type Two, or Type Three) and program/degree (e.g., STEM, humanities, social sciences). No significant relationships were found between program type and Likert questions on failure perspectives. However, students enrolled in a STEM program were more likely to view small failures as helpful to learning than those in social sciences or with undecided majors ($H_8 = 19.36$, $p = 0.013$), and business, management, and commerce students were less likely to view an early weak performance as an indication they will not do well overall ($H_8 = 16.34$, $p = 0.038$).

Help-Seeking and Communication in the Classroom

Following poor performance, few students regularly reach out to their instructor or teaching assistant (TA) for support (n = 304, 28.7%; see Figure 3). In an open-ended survey question, students were asked "In your opinion, what can instructors do to help you embrace and learn from failure?" (see Table 1). Many students found the finality of grading schemes demotivating and therefore lessons of how to recover from failure were ineffective. For example, one respondent wrote "… some [professors] will not let you make up a mark or argue for it, and I think not letting students keep trying is what bars them from wanting to continue." Others identified the level of feedback on assignments affects their ability to embrace failure as it is "difficult to learn from my mistakes when the instructors do not even tell me what my mistakes were." Some students also cited negative past experiences with seeking help from professors and call

for "humanizing professors" as "an integral role when it comes to embracing failure." Therefore, most recommendations for improved instructor support centred on improved communication to destigmatize failure and course structures that allows room for failure and improvement (see Table 2). Students also suggested that hearing stories of struggle and failure from their instructors would help them to reconceptualize and learn to accept failure.

Table 1

Coded and Ranked Themes for Student Responses to the Open-Ended Question, "In Your Opinion, What can Instructors do to Help you Embrace and Learn from Failure?"

Theme (includes % responses coded to each theme)	**Description of Theme**	**Example Response**
Classroom environment (64.2%)	Describes various aspects of students' experiences with course structure, assessment feedback, classroom environment, and instructor relationships	"Provide students with detailed solutions on how to handle failure and how to bounce back from it. One thing that instructors can do to help with failure in the school environment is to always provide feedback on tests, assignments, etc. I believe this is a very effective and helpful method which needs to be done more often."
Attitude toward failure (27.2%)	Suggestions for instructors to use positive language surrounding failure, discuss failure in class, and describe how best to respond to assessment feedback	"I think instructors can take a couple minutes at the beginning of the lecture after a test/exam and go over grades and give students a little motivation and make sure no one leaves with feelings of failure or unsatisfaction."
Mental health/well-being (15.7%)	Identifies relationships between failure, academic performance, and students' mental health and well-being	"I believe that failure has a great relation to mental health. If instructors are able to provide constant reminders and talk about mental health in general, it would help us embrace failure."
Resources/support (10.7%)	Makes reference to availability and accessibility of resources such as tutoring and academic counselling	"...while I know its too idealistic to wish professor had the time to check in on their students, but I truly wish there was that kind of communication. So that professors and students could determine where the failure stemmed from (e.g. course material, managing courses) and maybe alternative solutions (e.g. suggestions of tutoring, student resources)"
Expectations (9.1.%)	Describes the hardships and fear students face as a result of external and internal pressure to succeed	"It isn't up to the instructors at the end of the day; this is a systemic problem within the university. The only thing which can be done to alleviate this pressure is to accept less students. lower the barriers for entry into second year. students aren't given any room to breathe, being taken out of the frying pan and into the fire."
Learning format (2.1%)	Identifies how different classroom settings can affect students' relationship with failure. Pays particular attention	"Online schooling has caused many courses to increase workloads which causes students to stress more, become less motivated and cause other mental health problems. At least reduce reading and not always say online to look at the

	to the effects of online learning.	syllabus because sometimes the syllabus for some courses are so simple and does not provide proper information about the assignments. These are ways students can feel as if they will fail and need help."
Fairness in grading (1.5%)	Refers to consideration for unique circumstances and consistent grading practices	"Recently, I was speaking to a TA who… actually told me that when he gives students high marks, professors tend to (drawing from his experiences in the past and currently) tell him to be stricter. As a result, he has never awarded anyone a grade higher than a 97%. Although that is very high of a grade, I think students should be awarded grades that they deserve. Trying to maintain a certain class average or keep up with an unsaid rule that has no logical basis shouldn't negatively affect deserving student's grades."

Table 2

Strategies for Instructors to Support Students in Embracing and Learning from Failure

Strategy	Examples of Implementation
Destigmatize Failure	• Openly discuss difficulty, struggle, and failure • Recenter learning, rather than grades • Discuss difficulty, struggle, and failure during class time • Decouple failure from self-worth (i.e., explain that a grade does not define the person) • Emphasize the positive aspects of failure (i.e., failure as a learning opportunity, leads to improvement/growth) • Emphasize the ability to recover • Describe real-world or personal examples of failure and/or recoverability • Acknowledge the impact of failure on mental health/wellbeing • Teach students how to recover from failure • Incorporate room for exploration/experimentation (i.e., low-stakes assignments, make-ups for early assignments, dropping the lowest grade) • Teach students how to evaluate and apply feedback • Provide opportunities to learn from mistakes or follow up on feedback through revisions, make-up assignments, etc. • Provide or be able to recommend resources for dealing with failure and how to recover
Course Infrastructure	• Increase individual attention • Provide specific and substantive feedback, including suggestions for improvement • Robust communication outside/in between classes (via email, office hours, chat sessions) • Decrease student feelings of isolation • Facilitate connections/relationships between students • Reach out to students individually, especially if the student appears to be struggling • Be clear and specific in syllabus/assignment design

	• Provide a clear, detailed, and robust syllabus • Offer clear expectations and instructions for assignments • Adjust course requirements and grading • Slow the pace of content delivery (i.e., cover less material to facilitate deeper learning) • Dedicate class time to questions and clarifications, especially before and after quizzes/tests • Provide more time for reflection between assignments • Provide more time for solidifying new knowledge and/or practicing new skills before assessment • Implement more even distribution of assignment and grade weight • Be lenient with deadlines and open to extensions
Instructor Demeanor	• Be open, personable, and approachable • Be available for students to contact • Offer encouragement and motivation • Foster a positive and supportive learning environment • Express compassion and empathy for student stress and workload

Note: Suggestions based on student responses to the open-ended question, "In your opinion, what can instructors do to help you embrace and learn from failure?" (n = 303)

Institutional Supports

In an open-ended survey question, students were asked "In your opinion, what can the university do to help you embrace and learn from failure?" (see Table 3). Students indicated that the university itself communicates negative messaging around failure. As one student writes,

> universities distribute ads that say, 'look at these bright and successful students who have succeeded,' but it doesn't show the realities that allowed those students to become successful. Could they have failed in their first year of school? Yes, but we never know because [university public relations] only ever show the 'positive' and 'wonderful' sides of being a university student.

Several respondents described feeling as though their worth within the institution hinged on their ability to perform satisfactorily. For these students, institutional grading systems and CGPA "assign values to a person's abilities" and "defines me, whether people say that's true or not."

Table 3

Coded and Ranked Themes for Student Responses to the Open-Ended Question, "In Your Opinion, What can the University do to Help you Embrace and Learn from Failure?"

Theme (includes % responses coded to each theme)	**Description of Theme**	**Example Response**
Failure at university (58.2%)	Student perspectives on the universities' systemic lack of space and support for student failure as well as the culture of perfection	"I believe that the largest impacts would be changes to the university culture - particularly at large and reputable institutions, the view of failure is often simplified to being 'unacceptable,' with some students even choosing to drop out rather than attempt to learn from their failures and bounce back in future years."
Resources/support (41.7%)	Makes reference to availability and accessibility of resources such as academic counselling and financial support	"Just reminding us about resources and telling us how to use them could be really helpful. If we do happen to notice we need help, we know we have these resources, and can utilise them. Knowing what's available to us, and how to better ourselves, can be really helpful."
Mental health/well-being (16.3 %)	Identifies relationships between failure, academic performance, and students' mental health and well-being	"Providing discussion of failure from upper-year students or just having some sort of resource to reach out to. Perhaps having to get regular check up on students' mental health, in form of [surveys], which would translate to actual help. For example, [surveys] are sent to student's emails, and then if they mention that they are struggling they can receive help."
Course expectations (9.7.%)	Describes various aspects of students' experiences in the classroom as well as requirements for course structures, assessment weighting, and course load	"Have more pass/fail courses available, and allow for leniency in the course syllabus that benefits students"
Attitude toward failure (5.4%)	Suggestions for departments and the university to use positive language surrounding failure, share failure narratives, and support students experiencing failure	"To embrace and learn from failure, I think that the university should be more open in talking about it. We see so many success stories, it would be nice if they shined light on the students who weren't 'scholars' from the beginning, but worked to improve themselves."
Fear of future (3.5%)	Describes how students see failure as a hindrance to achieving future success in their academic and professional careers	"The university should not make poor performance and failure seem like a bad thing. I feel like if I fail in university I will lose a future, funding, and my position in my academic career. I understand keeping up to a standard to remain in a program, but the stakes I feel at times are too high and place too much weight on the shoulders of students."
Expectations (2.8.%)	Describes the hardships and fear students face	"Right now it seems like one mess up and its so hard to get back to where you were. Or one failed

	as a result of external and internal pressure to be successful	class and its so hard to be competitive again, because everyone is so worried about making POST or having the top grade in the class to be successful. What they can do is not look at the failure so strictly in situations of applying for POST or different programs, but look at the person as a whole and see how they've improved…and that the person in that moment isn't defined by the grade or GPA that they obtained, and therefore should still be given a chance or put under a different category of standards when applying to things like POST or programs."
Factors outside academia (1.1%)	Includes barriers to success that are not explicitly related to students' experiences in school but still affect how they interact with failure	"Lessen the tuition fees! I spend most of my time at work just so I have to pay for my fees."

Note: n = 303

Students identified several ways institutions could better communicate the benefits of pedagogical risk-taking, de-stigmatize failure, and support student perceptions of self-worth (see Table 4). Respondents indicated that it was important for them to hear from the institution that academic failure does not equate to the end of their academic careers. "I think the university should be more open in talking about it [failure]," asserts one student. "We see so many success stories, it would be nice if they shined light on the students who weren't 'scholars' from the beginning but worked to improve themselves." Respondents identified students' first or transitional year as an ideal time for the university to normalize failure and promote deep learning. "Talk about it more with first years," writes a second-year student. "Normalize not achieving the grades you initially wanted [and] encourage students to try their best and try to learn the content instead of learning to achieve the grade." Similarly, another student suggests "mak[ing] it more known...that many students often redo years or courses and often do an extra year in their undergrad." As one student explains, "increas[ing] awareness" of alternative timelines, academic struggle, or failure in a way "comforts students by allowing them to perceive failure as yet another normal stepping-stone to achieving greater future success."

Table 4

Strategies for Universities to Support Students in Embracing and Learning from Failure

Strategy	**Examples of Implementation**
Destigmatize Failure	Openly discuss difficulty, struggle, failure and recoverability • Recenter learning, rather than grades • Decouple failure from self-worth (i.e., explain that a grade does not define the student) • Emphasize the positive aspects of failure (i.e., failure as a learning opportunity, leads to improvement/growth)

	• Describe real-world or personal examples of failure and/or recoverability Decrease student feelings of isolation • Promote a supportive atmosphere, especially for students experiencing difficulty, struggle, or failure • Facilitate peer support and peer learning (including discussion with other students who have struggled, failed, and recovered) Develop an institutional understanding of why students fail • Understand the social, rather than simply individual, factors contributing to student difficulty, struggle, or failure • Promote institution-wide empathy and compassion toward all students
Institutional Infrastructure	Increase individual attention • Decrease class sizes • Reach out to students individually, especially if the student appears to be struggling Reconceive grading structure • Decrease emphasis on/do away with significance of class averages and bell curve distribution of grades for institutional metrics • Allow instructors to distribute assignment weights more evenly across the semester Reconceive program requirements • Revise entrance requirements for programs of study, including decreasing emphasis on GPA for admittance • Adopt holistic view of applicant, including past improvement and capacity for growth • Offer opportunities to reapply for academic programs Reconceive academic record/transcripts • Remove/replace previous failures with grade of successful attempt after retaking course Develop robust resources and support for students • Clearly describe institutional resources and how to access them • Advertise resources widely and frequently • Provide clear and detailed department websites with guides for writing papers, best practices for studying, research tips, etc. • Increase capacity, availability, and accessibility of academic resource and advising centers • Increase capacity, availability, and accessibility of peer tutoring centers • Increase capacity, availability, and accessibility or facilitate the formation of peer study groups • Increase capacity, availability, accessibility of mental health and wellbeing resources and centers • Implement mandatory study sessions • Offer workshops and/or guest lectures on struggle, difficulty, and/or recovering from failure • Offer transitional or non-credit courses teaching students organization, study skills, time management, how to evaluate feedback, and how to improve their work

	• Offer extracurricular opportunities for students to excel outside the classroom • Pursue grants and other funding to develop resources for struggling students Develop robust resources and support for instructors • Educate instructors on the pedagogical value of failure • Educate instructors on the types of resources and support available to students so that they can refer students appropriately • Ensure faculty, staff, librarians, counselors, and advisors have adequate resources • Pay instructors for extra time spent working with struggling students Offer more opportunities for exploration and experimentation • Increase number of pass/fail and non-credit courses for students to engage with unfamiliar topics safely Create space for difficulty, struggle, and failure • Offer more low-stakes opportunities for students to try new things or potentially fail without lasting consequences • Offer clear options for students to mitigate failures (e.g., dropping course, late withdrawal, etc.) Create space for recovering from failure • Offer more opportunities for students to try again and/or recover from difficulty, struggle, or failure Hiring practices and professional development • Hire instructors devoted to teaching and working with students • Educate instructors on the role of failure in learning • Develop advisor abilities to provide specific and concrete advice • Hire adequate number of faculty, staff, librarians, counselors, and advisors Restructure tuition and funding • Lower tuition overall • Charge less for taking a course again • Offer more financial assistance Restructure academic timelines • Lengthen semesters to provide more time for learning and reflection
Institutional Culture	Center students, rather than numbers, metrics, or tuition dollars Promote a supportive, friendly, and motivating atmosphere for all students regardless of academic success • Increase positive and affirming communication with students • Help incoming students to feel more at home and part of the community Prioritize student mental health and well being • Understand contemporary vectors of student stress • Promote healthy learning by teaching students how to balance school and life Take seriously student voices (i.e., opinions, feedback, suggestions)

	Engage in institutional self-reflection • Critically examine metrics and data to understand why students fail or drop courses • Critically reflect on the institution's role in student stress and failure, in addition to successes Increase flexibility of the educational institution and/or system • Reconceive of the role and requirements of academic probation Redefine what it means for the institution to be a successful one

Note: Suggestions based on student responses to the open-ended question, "In your opinion, what can the university do to help you embrace and learn from failure?" (n = 303)

A desire for institutional communication focused on community building also figured strongly in student answers. Students felt "disconnected to the school" and their peers, thus feeling more isolated when experiencing struggle or failure. For one respondent, "A university that reaches out more to their students and makes them feel more a part of the community would be helpful." A second participant concurs: "I would just overall like if the university communicated with students more and tried to keep a closer connection with the community. Just knowing that the university is a friendly and helpful place would...make the environment better, and I think it would help everyone (students, TA's, staff, instructors, everyone)."

In terms of policy, respondents expressed a desire to see tangible institutional commitments to normalizing failure, teaching students how to learn from struggle, and providing opportunities to try again. Importantly, participants emphasized that it is not enough for institutions to deploy failure rhetoric encouraging them to "take risks," "be resilient," and "embrace failure." Students underscored the need for structural designs (e.g., reimagined grading and CGPA, changes to program requirements, peer mentorship programs) that consciously and equitably incorporate struggle and failure for enhanced learning. At the same time, respondents argued for adequate institutional supports (e.g., academic advising, mental health and well-being resources, tutoring and writing centres) that offer encouragement and motivation. In the words of one student, "academic advisors should become more proficient in advice that isn't surface level ([they should speak] on study habits or strategies instead of just advice about course selection." Some participants suggested that advisors and counsellors reach out to struggling students to offer help and support. As they explained in their responses, the stigma of failure or the feelings of shame and embarrassment associated with it prevented some students from seeking help. Further, students emphasized ease of access to such resources. As one student explains, "There are many programs that the university has to help but students do not use them because the access is unclear or unknown."

In addition to robust academic advising, students sought an institutional commitment to easing the high school to university transition by teaching students how to succeed in higher education. As students described it, success in higher education included not only knowledge- and skills-acquisition, but "healthy learning," learning "how to learn," and "how to balance a school life with everything else." In the words of one respondent, students need "better information on transitioning to university and how to be successful (e.g., note-taking, what to expect, time that should be spent on different work, what a typical schedule should look like)." Another explained that "what helped me once was the non-credit course I took which helped students like me on probation [to] organize our time better and develop better writing skills, organization, tack[ling] different types of exams and so on."

Beyond specific types of resources and expanded availability, survey respondents argued that institutions of higher education need to undergo a broader cultural transformation that prioritizes the normalization of struggle and failure, student-centred learning, and health and well-being. "The university can work further in manifesting a better culture towards well-being and mental fortitude," argues one student, "especially in the face of failure and stress." A second student agrees: "I believe that the largest impacts would be changes to the university culture. Particularly at large and reputable institutions, the view of failure is often simplified to being 'unacceptable,' with some students even choosing to drop out rather than attempt to learn from their failures and bounce back in future years."

Discussion

Although students may recognize failing as important to the learning process, those lessons can be overshadowed by a classroom environment where a sense of community and open communication are lacking. The barriers to embracing and learning from failure identified in our survey largely centred on a lack of engagement and humanized interactions between students and instructors, course structures and grading schemes that do not provide opportunity to learn and recover from failure, and overall messaging (both overt and underlying) from instructors and universities that failure is something to be avoided. This suggests that institutions of higher education need to undertake a process of self-reflection regarding emphasis on success, the pedagogical role of struggle and failure, and the importance of student health and well-being.

Instructor Support of Student Resilience

In survey responses, students recognized that their own perceptions of failure sometimes serve as barriers to taking risks, trying new things, and/or embracing and learning from failure. However, a lack of acknowledgement by instructors of the role of

failure in learning, as well as a lack of open and honest communication discussing how to bounce back from failure, also contribute to existing barriers in students embracing failure. Notably, students' perceptions of struggle and failure can be shifted either positively or negatively by their instructors and TAs, a relationship identified in both open-ended responses and our Likert data. With these two problem areas in mind—negative perceptions of failure and lack of open communication—we identified several areas in which instructors can facilitate more positive perceptions toward failure.

In the classroom, one can incorporate failure narratives designed to normalize failure such as shared personal stories of failure, discussions of the role of failure in learning, or positive language associations with failure to support attribution retraining (Chodkiewicz & Boyle, 2014; Nunes et al., 2021). The sharing of personal stories specifically can help foster a sense of community in the classroom, which may further benefit students facing challenges with self-motivation and help maintain student engagement (hooks, 2003; Washington & Mondisa, 2021). Shared experiences of failure can lessen feelings of isolation by demonstrating to students they are not alone in their failure. At this same time, the fostering of community and peer support can lead to improved academic achievement (Puzziferro, 2008). It is important to note, however, that any advice for students to simply try again following setbacks would be an oversimplification of the complex issue of power and privilege inherently tied to failure (Kundu, 2014). The consequences of failure are not equally felt by all students, and one must be mindful that disproportionately affected communities should not be expected to move past challenges not experienced by more privileged groups (Hallmark, 2018; Orsini, 2020).

To further support learning from failure, instructors can reconsider their course structure. Flexible grading schemes (e.g., low stake assessments, dropping the lowest grades from a set of assignments, opportunities to revise and resubmit) can provide opportunities for students to reflect on and bounce back from failure (Gradel & Edson, 2010). For example, one student wrote:

> One thing that instructors can do to help me learn from failure is by creating opportunities for me to fail without dire consequences. Failing on an assignment that is worth 50% of my grade will definitely lead me to see failure in a negative light because I had to face negative consequences. However, if instructors are able to create a flexible learning environment that allows students to bounce back from failure, this will be the best environment that will allow me to learn from failure.

Acknowledging limitations to time and resources (e.g., graduate teaching assistant support), more detailed feedback was also identified by students as a form of communication that can help them learn from failures. Our results confirm that most students read the feedback on their assignments and find it helpful for learning.

However, to further bolster the efficacy of assignment feedback and foster positive perspectives of failure, instructors can discuss with their students *how* to respond to assignment feedback and provide suggestions for next steps.

Implications for Institutions

We identified a high frequency of student responses citing university messaging of the "successful" undergraduate students and the rigid importance of CGPAs. This indicates that, however inadvertently, the university is communicating to students a value system in which personal worth is tied directly to academic performance while simultaneously obfuscating the realities of uncertainty, struggle, and failure. One student aptly observed, "it's hard to embrace failure at an institution dependent on success." As with the role of instructors, students argued that the institution holds a responsibility to communicate more clearly the role of failure in learning, but also provide easier access to services that support students through the academic and emotional challenges of failure.

In interviews with university faculty, Ross et al. (2023) identified a hesitancy to incorporate failure-based interventions in the classroom, specifically in the provision of opportunities for failure and desirable difficulties. This suggests a disconnect between the known pedagogical value of failure and institutional expectations and policies. Therefore, there exists a need for improved university-level professional development opportunities for faculty to implement best practices to support student resilience. Such a paradigm shift would represent an institutional commitment to learning and student wellbeing. Of note, students explicitly sought resources that understood the student holistically. Approaches should acknowledge the learning benefits, stressors, and negative effects attached to failure and to understand students have varied cognitive, social, and emotional needs. Further, students recognize that their perceptions of university life and learning have not been shaped in a vacuum. A number of participants argue that a larger shift in attitude toward failure must occur across all levels of education, particularly in high school preparation for university, as well as acknowledging how intersections of power and privilege with failure change over time. In sum, students emphasized the need for chances to practice, make mistakes, and recover in an environment that welcomes experimentation, supports intellectual growth, and provides structural support rather than fear of long-lasting consequences.

Conclusion

For students to embrace failure in learning, an increase in productive failure-based communication between students and professors may be instrumental in shifting student perspectives. Based on student suggestions, instructors can incorporate lessons of learning from failure in their curricula, be clear and detailed in assessment instructions and rubrics, provide frequent and substantive feedback, give tangible

opportunities for second chances, and make themselves accessible to students seeking help. At the institutional level, there is a call for improved resources and supports for students facing challenges, and an emphasis on accessibility of counselling and mental health resources. In the contexts of both course- and university-level changes, there is a desire to normalize failure, foster community, and shift the existing institutional mindset to one that is more accepting of failures and setbacks. Students' suggestions for improved communication may help to eliminate the barriers found in course structure and humanize interactions with course instructors.

Undergraduate students at UTM have provided clear recommendations to positively improve their perspectives of, and ability to learn from, academic failure. The critical next step is to turn these suggestions into tangible changes in the culture of university classrooms. Although some faculty may feel resistant to implementing such changes (Ross et al. 2023), one must consider that there is no expectation to implement all of these suggestions at once. Instructors can challenge their discomfort and begin with small steps in implementing one or a few suggestions they feel are within their capacity. This action towards positive change can inspire other colleagues to make similar changes, encourage conversations between instructors and students, and work to gradually shift the culture of success so prevalent in post-secondary education.

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References

Bjork, E. L., & Bjork, R. A. (2011). Making things hard on yourself, but in a good way: Creating desirable difficulties to enhance learning. In M.A. Gernsbacher & J. Pomerantz (Eds.), *Psychology and the real world: Essays illustrating fundamental contributions to society* (Vol. 2, pp. 59-68). Worth.

Bledsoe, S., Baskin, J. J., & Berry, F. (2018). Fear not! How students cope with the fears and anxieties of college life. *College Teaching*, *66*(3), 158-165. https://doi.org/10.1080/87567555.2018.1472064

Bledsoe, T. S., & Baskin, J. J. (2014). Recognizing student fear: The elephant in the classroom. *College Teaching*, *62*(1), 32-41. https://doi.org/10.1080/87567555.2013.831022

Brady, D. W., Corbie-Smith, G., & Branch, W. T. (2002). "What's important to you?": The use of narratives to promote self-reflection and to understand the experiences of

medical residents. *Annals of Internal Medicine*, *137*(3), 220-223. https://doi.org/10.7326/0003-4819-137-3-200208060-00025

Brown, P. C., Roediger, H. L. I., & McDaniel, M. A. (2014). *Make it stick: The science of successful learning*. Harvard University Press.

Chodkiewicz, A. R., & Boyle, C. (2014). Exploring the contribution of attribution retraining to student perceptions and the learning process. *Educational Psychology in Practice*, *30*(1), 78-87. https://doi.org/10.1080/02667363.2014.880048

Creswell, J. W. (2012). *Educational research: Planning, conducting and evaluating quantitative and qualitative research* (Fourth Edition ed.). Pearson Education Inc.

Fiegenbaum, P. (2021). Telling students it's O.K. to fail, but showing them it isn't: Dissonant paradigms of failure in higher education. *Teaching & Learning Inquiry*, *9*(1), 13-26.

Gradel, K., & Edson, A. J. (2010). Putting universal design for learning on the higher ed agenda. *Journal of Educational Technology Systems*, *38*(2), 111-121. https://doi.org/10.2190/ET.38.2.d

Hallmark, T. (2018). When "failure is okay" is not okay. *The Chronicle of Higher Education*, *64*(23), A44.

Henry, M. A., Shorter, S., Charkoudian, L., Heemstra, J. M., & Corwin, L. A. (2019). FAIL is not a four letter word: A theoretical framework for exploring undergraduate students' approaches to academic challenge and responses to failure in STEM learning environments. *CBE Life Sci Educ*, *18*(1), ar11. https://doi.org/10.1187/cbe.18-06-0108

Hjeltnes, A., Binder, P. E., Moltu, C., & Dundas, I. (2015). Facing the fear of failure: An explorative qualitative study of client experiences in a mindfulness-based stress reduction program for university students with academic evaluation anxiety. *Int J Qual Stud Health Well-being*, *10*, 27990. https://doi.org/10.3402/qhw.v10.27990

hooks, b. (2003). *Teaching community: A pedagogy of hope*. Routledge.

Kapur, M. (2008). Productive failure. *Cognition and Instruction*, *26*(3), 379-424. https://doi.org/10.1080/07370000802212669

Kapur, M. (2015). Learning from productive failure. *Learning: Research and Practice*, *1*(1), 51-65. https://doi.org/10.1080/23735082.2015.1002195

Kundu, A. (2014). Backtalk: Grit, overemphasized; agency, overlooked. *Phi Delta Kappan*, *96*(1), 80.

Levett-Jones, T. L. (2007). Facilitating reflective practice and self-assessment of competence through the use of narratives. *Nurse Educ Pract*, *7*(2), 112-119. https://doi.org/10.1016/j.nepr.2006.10.002

Miles, M. B., Huberman, A. M., & Saldaña, J. (2020). *Qualitative data analysis: A methods sourcebook* (Fourth edition ed.). Sage Publications Inc.

Nunes, K., Du, S., Philip, R., Mourad, M. M., Mansoor, Z., Laliberte, N., & Rawle, F. (2021). Science students' perspectives on how to decrease the stigma of failure. *FEBS Open Bio*, *12*(1), 24-37. https://doi.org/10.1002/2211-5463.13345

Orsini, M. (2020). *Stop asking us to be resilient*. Institute for Research on Public Policy. https://policyoptions.irpp.org/magazines/october-2020/stop-asking-us-to-be-resilient/

Porter, S. R., & Whitcomb, M. E. (2005). Non-response in student surveys: The role of demographics, engagement and personality. *Research in Higher Education*, *46*(2), 127-152. https://doi.org/10.1007/s11162-004-1597-2

Puzziferro, M. (2008). Online technologies self-efficacy and self-regulated learning as predictors of final grade and satisfaction in college-level online courses. *American Journal of Distance Education*, *22*(2), 72-89. https://doi.org/10.1080/08923640802039024

Robotham, D., & Julian, C. (2006). Stress and the higher education student: A critical review of the literature. *Journal of Further and Higher Education*, *30*(2), 107-117. https://doi.org/10.1080/03098770600617513

Ross, J. N., Dey, P., Baffour, E., Abdellatiff, Y., Tjan, E., Guadagnolo, D., Laliberte, N., & Rawle, F. (2022). Visualizing the power and privilege of failure in higher education. *Imagining SoTL*, *2*(2), 2-23.

Ross, J. N., Guadagnolo, D., Eastman, A., Petrei, M., Bakaj, A., Crupi, L., Liu, S., Laliberte, N., & Rawle, F. (2023). Instructor perspectives on failure and its role in learning in higher education. *Currents in Teaching and Learning*, *14*(2), 1-21.

Simpson, A., & Maltese, A. (2017). "Failure is a major component of learning anything": The role of failure in the development of STEM professionals. *Journal of Science Education and Technology*, *26*(2), 223-237. https://doi.org/10.1007/s10956-016-9674-9

Washington, V., & Mondisa, J. L. (2021). A need for engagement opportunities and personal connections: Understanding the social community outcomes of engineering undergraduates in a mentoring program. *Journal of Engineering Education*, *110*(4), 902-924. https://doi.org/10.1002/jee.20422

Long Descriptions

Figure 1

Figure 1 displays a multicoloured bar graph representing the question ""When I feel unsuccessful in a course, it is usually because." The following responses and percentages were provided by respondents:

	Strongly Disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
…the instructor did not present the material clearly	3.63%	10.56%	17.49%	25.08%	29.37%	7.59%	6.27%
…I do not have the appropriate amount of background knowledge at the beginning of the class	4.29%	10.56%	17.49%	17.16%	31.68%	14.19%	4.62%
…of the amount of work the instructor has assigned	3.30%	7.59%	17.16%	17.49%	25.08%	21.12%	8.25%
…I have not put in the effort necessary to do well	4.62%	8.91%	8.58%	14.52%	31.02%	22.77%	9.57%

Figure 2

Figure 2 displays a multicoloured bar graph representing undergraduate student opinions on course selection motivations. The following responses and percentages were provided by respondents:

	Strongly Disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I will take a tough course if the content is compelling or interesting	4.29%	5.61%	8.25%	6.27%	21.12%	33.00%	21.45%

I seek out "bird" (easy) courses when satisfying requirements outside of my program	4.29%	12.21%	6.93%	9.24%	19.80%	28.71%	18.81%
I see out "bird" (easy) courses when enrolling in classes in my program	10.56%	24.09%	15.18%	13.53%	18.81%	9.57%	8.25%
Course averages play an important role in whether or not I am interested in taking a class	8.91%	15.18%	10.89%	12.21%	22.44%	19.47%	10.89%

Figure 3

Figure 3 displays a multicoloured bar graph representing undergraduate students' perspectives on instructor feedback, failure-based discussions, and help-seeking in their classes. The following responses and percentages were provided by respondents:

	Never	**Rarely**	**Sometimes**	**Often**	**Always**
I read instructor feedback on my assignments	1.65%	0.99%	6.27%	26.73%	64.36%
I find instructor feedback helpful for my learning	1.32%	3.96%	26.40%	28.05%	40.26%
My professors talk about how to respond to failure	24.09%	37.95%	28.71%	7.59%	1.65%
My professors talk about how to respond to their feedback	13.53%	33.33%	33.99%	16.50%	2.64%
Following poor	16.83%	27.06%	27.39%	16.50%	12.21%

performance, I speak to my TA or instructor to discuss how I might do better					