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### Research on Effects of Grading

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## Research on Effects of Grading

I believe we have shared goals for our students to become happy, ethical, caring, compassionate, independent, self-motivated, curious critical thinkers and lifelong learners. Decades of research on the effects of grades and grading undermines those goals. This executive summary presents just some of research on how grading affects students' mental health, intrinsic motivation, critical thinking, and relationships with teachers and peers. Student survey results are included from a course taught without the use of grades.

### Academic Pressure of Grades Hurts Students' Mental Health

The number of college students struggling with anxiety, depression, suicidal thoughts, and psychosis has contributed to what some have referred to as a mental health crisis in North American higher education (Kruisselbrink Flatt, 2013). Students often cite pressure to get high grades as the leading cause of their stress and anxiety (Bouchrika, 2020), since grade performance weighs heavily on a student's future job prospects, eligibility for financial aid and scholarships, or even reduced rates on car insurance (Lynch & Hennessey, 2017). Some stress is beneficial but heightened stress and anxiety levels can impair cognitive functioning (Angelidis, et al., 2019). The impact of academic stress not only hurts students' ability to learn but also affects their well-being (Bloodgood, et al., 2009) and can lead to mental health problems such as depression, anxiety, inadequate sleep, and substance abuse (Pascoe, et al, 2019). Students who base their self-worth on external sources such as grades report more stress, anger, relationship conflicts, higher levels of drug and alcohol use, and eating disorders (Crocker, 2002 ). Low GPA has been found to be a predictor of student suicide (De Luca, et al., 2016; CDC, 2015). Grades are based on deficit thinking (Smit, 2012) and students can internalize this idea (Thomas & Oldfather, 1997) creating a fixed mindset about their abilities (Race & Winger, 2020), and feeling like a "failure" if they don't achieve at a certain level, which can vary from getting an "F" to not getting all A's (Milton, Pollio, and Eison, 1986). When 1 in 5 college students considers suicide in response to academic pressure (Reinberg, 2018), as educators who seek to "do no harm," we must critically examine the systems and structures that contribute to the state of students' mental health and create alternative ways for students to demonstrate their learning that doesn't leave them stressed, anxious, depressed, and willing to end their lives over something so trivial as grades.

### Grades (an extrinsic motivator) Undermine Intrinsic Motivation for Learning

If our goal is for students to become self-directed, autonomous, lifelong learners, intrinsic motivation plays an essential role (Song, et al, 2016). Intrinsic motivation can be defined as a person's interest in learning for its own sake rather than for a reward or punishment for learning (a grade). Rewards or incentives can work in the short-term and can work for routine, mindless tasks (Kohn, 1993). But if tasks require creativity or critical thinking, extrinsic motivators tend to produce poor results (Glucksberg, 1962; Pink, 2009). If the goal is to change behavior over the long-term or instill a love of learning, rewards and punishments will not produce long-lasting effects and can actually be counterproductive (Kohn, 2018; Gorges, et al, 2013). A study compared motivations of students across institutions that

used traditional grades, Pass/Fail, and narrative evaluations. Chamberlin et al., (2018) found that traditional (A-F) grades not only did not enhance motivation for learning, but increased anxiety and resulted in students avoiding challenging courses. Students who received narrative evaluations and Pass/Fail experienced higher intrinsic and autonomous motivation than students who received traditional grades (Chamberlin et al, 2018). Bloodgood et al. (2009) and White and Fantone (2010) found that gradeless learning reduced anxiety and depression and increased positive well-being and vitality.

Intrinsic motivation can be developed when three psychological needs are met: autonomy (perceived control over one's learning), competence (perceived self-efficacy), and relatedness (mutual feelings of care and connection in a class community) (Deci & Ryan, 2000). Positive outcomes associated with intrinsic motivation include creativity (Deci & Ryan, 2000), psychological well-being (Bailey & Phillips, 2016), engagement, and academic success (Taylor et al., 2014; Froiland, et al, 2012). Extrinsic motivation (also called 'controlled motivation' or 'doing to' rather than 'working with' students, Kohn, 1994), on the other hand, can result in decreased achievement and well-being and reduced persistence in academic tasks (Deci & Ryan, 2017; Klapp, 2015) as well as cheating (Pulfrey & Butera, 2013). Experimental studies found that grades can decrease autonomous motivation by hindering autonomy (Butler & Nisan, 1986; Pulfrey et al, 2013; Ryan & Weinstein, 2009). Research on self-determination theory suggests that grades are viewed as controlling and undermine intrinsic motivation to learn (Ryan & Deci, 2020). Intrinsic motivation to learn is enhanced when support is provided for autonomy including offering choice, giving informational feedback on mastery, letting students explore their interests, and sharing decision-making (Ryan & Deci, 2020). Grading is antithetical to developing the self-motivation needed in a society that demands continuous learning throughout one's life.

### Grades Discourage Critical Thinking and Meaningful Learning

Grades take the focus off the process of learning and direct focus toward the end-product; the grade (Holtgreive, 2016). Research has shown that grades tend to reduce students' interest in what they are learning (Harackiewicz, et al., 1987) and students' academic interest dramatically declines when they receive low scores (Butler, 1988). Grades discourage intellectual risk taking where students tend to choose the easiest task (Condry, 1977; Milton, et al., 1986; Pulfrey, 2011). When grades are present, this tends to shift students' focus toward ego-protection and social comparison, rather than, say, grappling with ideas or challenging themselves (Butler, 1987; Butler & Nisan, 1986). One experiment found that students who were informed they would be graded retained less information than those who were told the lesson would not be graded (Grolnick, & Ryan, 1987). Another study found that grades reinforced confirmation bias and led students to defend their position, rather than critically question or consider alternatives (Hayek, et al., 2014). Another study found that grades resulted in fragmented, superficial knowledge rather than deep, integrated learning (Harland, et al., 2015). A focus on grades has been shown to be inversely related to a focus on learning (Beck, et al., 1991; Milton, et al., 1986). Students often experience tension between learning and grades (Horowitz, 2010). Research has shown that students perform better when given descriptive feedback and no grades than when descriptive feedback accompanies grades (Butler & Nisan, 1986; Lipnevich, 2007).

### Grades Negatively Impact Teacher-Student and Student-Student Relationships

Grading can erode trust between students and teachers, pit students and teachers against each other as adversaries, and “create a climate of fear” (Coffield, 2012; Milton et al., 1986). Grades, as the currency of higher education, make student-faculty relations transactional (Farias, et al., 2010). Grades increase competition and reduce cooperation between students (Hayek, et al., 2017) because grades are used to sort and rank students which places them as adversaries rather than collaborators (Kohn, 1994).

Tannock (2015) argues that

“grading undermines the sense of collective solidarity and mutual responsibility between students that democratic education seeks to foster, and promotes instead an embrace of competitive and detached individualism. Second, grading undermines the principles of dialogical engagement and critical questioning of authority figures vital to democratic practice, by instead promoting relationships of passivity, obedience and submissiveness among students toward their teachers.”

Research also shows that when students feel genuinely respected and cared for, they reciprocate respect and care, and feel a sense of belonging at school (St-Amand, et al, 2017). Grading is arduous for teachers and can be a barrier to innovative and effective teaching (Schinske & Tanner, 2014).

### Universities and Schools Moving Away From Grades

Higher education institutions that are entirely or optionally grade-free (emphasizing narrative evaluations) include: Hampshire College, Evergreen State College, Deep Spring College, New College of Florida, Alverno College, Fairhaven College of Interdisciplinary Studies, Prescott College, Antioch University, and Goddard College. Brown University gives students the option to take most courses for satisfactory- no credit. Most elite medical schools (eighteen of the top twenty) use only pass-fail grades. Medical schools have also largely eliminated grades because of the high rates of student suicide. To reduce the focus on grades and competition, some elite law schools- Harvard, Stanford, Yale- do not use traditional grades. And it is not only happening in higher education. Many K-12 schools are also using gradeless approaches to facilitate intrinsic learning (Schwartz, 2017; Spencer, 2017).

### Conclusion

Grades teach students that the point of school is to get points (Blum, 2020), and this undermines the broader goals of education in developing habits of the mind that prepare students for an increasingly complex world that requires divergent thinking, people skills, and abstract cognitive enablers (thinking skills) against the forces of automation (Martin, 2021). If the goal of education is to prepare students for lifelong learning, many universities will need to better align their goals with their pedagogies. This includes integrating what educational research says about psychological needs of learners and cultivating new mindsets and teaching methods that harness the power of intrinsic motivation and build caring communities.

## Student Survey Results from a course that used 'ungrading'

### Final Course Reflections

Let me know your final thoughts, reflections, and feedback regarding this course. Thank you for your time!

#### 1. What was the most engaging part of this course and why? 5 responses

The weekly meetings with you, the professor. Your detailed feedback on assignments was absolutely helpful and incredible but hearing it and getting in depth with you about the specifics made it phenomenal!

I found myself engaged with most assignments. I was surprised by my engagement with the essay (an endeavor that I usually hate). I think that being allowed to put myself and my personal experiences into the essay really upped my engagement level.

Being able to apply all learning and assignments to my future teaching job. I felt like all assignments were relevant. I did not feel that any of the assignments were a waste of time.

The weekly zoom meetings with Prof. Leslie because I felt that we accomplished a lot during these meetings. It was very nice to have an open dialogue with my professor rather than just looking at a rubric. I felt I gained more clear, precise feedback that helped me get engaged in the work I was completing throughout the course.

I believe that I engaged most with the performance gap course or project the most. It was fun to create a course from scratch on a real life issue that I feel my school is facing.

#### 2. What are you most proud of doing or learning in this course? 5 responses

My whole website course. That, and I actually learned. I feel like I can actually take away stuff that helps me sound and feel "scholarly".

I'm proud of my website and (though not part of the class), I'm happy that I have a game plan for backward design for next year. It calmed me a bit regarding my school districts major grade policy change.

I am the most proud of building my website. I spent a lot of time planning the website and creating the Why Learn Music video as well as the Composer Research Instruction video. In this class, I was able to continue to build on my website so it now has all the components that I was envisioning for it.

I am very proud of my paper as well as my project. Both could have used some more fine tuning, but I believe I progressed each week and showed significant improvement. Prof. Leslie helped me change my paper from free writing to academic writing and the things I learned I will keep with me forever. While working on my project, Prof. Leslie provided me with a new perspective and great ideas to ponder.

Learning the proper name for my style of instructional design, and like I said the actual creation of a course based on a performance gap I feel is going to be an issue this upcoming year.

3. What did you think about the ungrading approach used? How did it go for you? 5 responses

LOVED IT! Loved it before, this emphasized my love even more. It helped me when I was having my mini anxiety attacks and stressing out that you were open and flexible to hearing my feedback regarding my own grade. I actually tried harder than I would've if I had gotten a number/letter score.

I didn't hate it. It just didn't impact my work ethic a ton. I did like that it made assignments meaningful to me. I also liked the one-on-one meetings to gauge my progress.

It took away a lot of stress when doing the assignments. I wasn't worried about doing the assignments perfectly. Typically, in my grad school classes, I get overwhelmed with the amount of assignments to be done.

I loved the ungrading approach to this course! I think Prof. Leslie is a fantastic teacher that puts her students first above all else. The feedback that I received from her on a weekly basis aided in my academic growth beyond what I had expected.

Loved it! It really allowed me to stress less, and concentrate more on the learning instead.

How can this course be improved? 5 responses

I honestly can't think of a way. It was made easy, I learned SO much, and I wish I can take this professor for every course. This was my favorite course taken both during my Bachelor's and now, Master's. Thank you!

I have zero suggestions right now.

Maybe an additional discussion board in Week 4 to get more feedback on our websites and papers before submitting them on Sunday of Week 4.

After putting some thought into this question, I could not think of anything that could be improved. I thought the course was very well organized and included very substantial information. Prof. Leslie also made this class fun and engaging which motivated me to be a better student. Rather than completing an assignment or writing a paper because I am required to, her teaching style and different strategies made me want to dive deeper into my assignments and paper. Her teaching strategies gave me a sense of ownership over my learning process and for that I am very thankful.

I honestly can not really think of anything that I would add or take away. It was constructed beautifully.

Feel free to use this space to provide any additional feedback for me. Thank you! 5 responses

Thank you so much for everything! You were approachable, helpful, and to be honest...felt like a real person. I didn't feel like I had to prove myself to you in order to earn my grade, instead I felt like I was trying to impress/prove things to myself. You're incredible, seriously. I followed you on Twitter! Hopefully you can see my journey as an educator with my little's.

I really enjoyed this class.

Appreciated how each major assignment, like the paper and project had weekly milestones to get feedback along the way before turning in the final product. I really enjoyed this course!

Words cannot express how much respect I have for Prof. Leslie. She is an amazing teacher that goes beyond what is required of her on a daily basis. She truly cares for her students and it is shown in the research and hard work she dedicates to her job. Thank you Prof. Leslie!!!

Professor Heather Leslie was amazing! She not only showed genuine care and intrigue, but provided very well thought feedback that not only provided a direction for me, but also made me feel a sense of care about my own work. She is definitely one of the best professor's I have had at National University, and I look forward to cross paths with her in the future!

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