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The promise and pitfalls of gradeless learning: responses to an alternative approach to grading

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ABSTRACT

This paper examines an alternative approach to grading at a public university in Singapore. Beginning in 2014, all incoming students were given a 'grade-free' period of assessment. This was designed to give new students time to adjust to university life and to inspire students to approach their learning free from the worry of grades. Similar to pass/fail systems elsewhere around the world, this example of what we call 'gradeless learning' reflects long-term national aims of reducing society's emphasis on the letter- and number-based grades and developing a country of lifelong learners. This paper shares student and faculty reaction to the alternative approach to grading, through four surveys conducted during the 18 months following its implementation. Over 3000 responses from students and nearly 500 responses from faculty reveal both groups recognise the potential of gradeless learning to positively impact student learning and well-being, by helping students adjust to university life and encouraging them to take more academic risks without worrying about grades. However, both groups cite problems with gradeless learning, namely poor learning attitudes and behaviours, which arise when grades can no longer be relied on to motivate learning. Faculty members, in particular, feel frustrated by their lack of an active role in this alternative approach to grading, which was designed exclusively to benefit students. This study suggests that the success of gradeless learning anywhere requires the support of faculty partners, who must be integral in developing pedagogical innovations that can help de-emphasise grades as a way to motivate and measure learning.

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Grades; stress; well-being; motivation; gradeless learning

Introduction

For over a century, all levels of education have used letter grades to sort and track students, reward outstanding performance, and indicate promise to potential employers (Smallwood 1935; McKeachie 1976; Tocci 2010; Schneider and Hutt 2013; Schinske and Tanner 2014; Higher Education Academy 2015; Anderson 2018). In response, some scholars and educators have blamed grades for increased stress among students, unhealthy competition, and learning motivated solely for the sake of grades (Dewey 1903; Mannello 1964; Kohn 1994; Dahlgren et al. 2009; Pippin 2014).

Alfie Kohn, a particularly fierce critic of grades, explains the negative relationship between grades and motivation as such: 'Extrinsic motivation, which includes a desire for better marks, not only differs from intrinsic motivation (a desire to learn for its own sake) but often erodes it' (Kohn 2011, 30). Formative and summative assessment can help gauge student learning and provide useful and actionable feedback (Angelo and Cross 1993; Evans 2013); however,

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critics question the rationale for the continued use of letter- and number-based grades, particularly in higher education (Coffield 2012; Matthews and Noyes 2014; Tannock 2017). Stuart Tannock (2017), for example argues that as universities prepare students for an unpredictable future, grades create a stumbling block to building the core competencies university graduates need: collaborating and communicating effectively, taking risks, learning from failure, thinking critically, productively engaging with authority, and learning over the course of a lifetime.

For these critics of grades, the alternative is clear: 'gradeless learning.' In this paper, we propose gradeless learning as a conceptual shorthand for what many educators, administrators, policymakers, students, and parents commonly consider the ideal form of learning: learning completely delinked from letter and number grades. Calls for gradeless learning stem from the belief that grades have become a problem that negatively impacts student learning, by incentivizing learning for the wrong reasons (the grade) and increasing stress among students. Of course, gradeless learning is everywhere, particularly outside the formal education system. Learning to bake cookies, learning a ride a bicycle, learning a foreign language through self-study: these are but a few of the myriad ways we learn without any thought of grades. When we succeed, we do not need a grade, since the skills and knowledge are sufficient reward. When we do not succeed, a failing grade does not add to our stress. In fact, the lack of repercussions means we are likely to try again. Advocates of gradeless learning suggest that eliminating grades would lead to such positive outcomes for students, improving both their learning and their well-being.

Efforts at moving toward the elimination of grades within higher education include the adoption of pass/fail systems in medical schools (Jacobs et al. 2014; Peters and Finch 1984; Weller 1983). While the results of these systems remain mixed (Spring et al. 2011), they are designed to reduce competition, increase collaboration, and develop self-regulated learning, which are all vital for students who must keep learning and updating their skills throughout their careers (White and Fantone 2010). Elsewhere, pass/fail systems have been implemented in a small number of universities in Singapore, Sweden, the U.K., and the U.S. (for an overview, see McMorran, Ragupathi, and Luo 2017). However, letter- and number-based grading systems remain the norm throughout higher education.

In this paper, we analyse an alternative grading system grounded in the above concerns about the negative impacts of grades on student learning and well-being. We discuss the introduction of a 'grade-free first semester' at National University of Singapore, which was implemented in 2014 as a response to concerns by government and educational leaders about excessive stress on grades at all education levels and the negative implications for the country's future. Then, we share findings from four surveys we conducted in the 18 months following the system's implementation, which aimed to understand the reactions of students and faculty members to the new policy. Overall, we collected more than 3000 responses from students and nearly 500 responses from faculty members. We found that both groups tended to believe in the hopeful rhetoric of gradeless learning: that a 'grade-free first semester' can help first-year students adjust to university life and take academic risks by creating a less stressful learning environment. However, respondents in both groups express ambivalence about gradeless learning, with faculty in particular worrying that removing grades decreases student motivation and leads to a poor work ethic. In this paper, we share reactions from both students and faculty to this alternative approach to grading. However, we highlight the reactions of faculty in particular, since most gradeless learning advocates emphasise its benefits for students while ignoring the potential benefits for teachers. Our study suggests that while eliminating grades may reduce student stress and inspire them to take more academic risks, faculty may disproportionately suffer due to structural impediments or a personal pedagogical stance that believes grades are essential for motivating students.

A national effort to reform 'learning for grades'

Singapore is often considered a global leader in education. Its primary and secondary school students regularly score near the top in international comparisons, and the country hosts several universities that have rapidly approached the top of various international rankings in the past decade. However, the Minister for Education and other key players in the higher education landscape have recently expressed ambivalence with these results, due to what they suggest is an excessive focus on learning for the sake of grades alone. In 2014 the Minister for Education publicly called on all schools to help students 'go beyond learning for grades, to learning for mastery' (Heng 2014). In response, National University of Singapore introduced an alternative grading system in August 2014 designed to support all 7000-plus first-year (freshmen) students.

The University's rationale for this 'grade-free first semester,' as it was called, echoed that of scholars who claim that an overemphasis on grades can create unhealthy competition, increase student stress, and hinder student learning (Kohn 1994; Pippin 2014). The 'grade-free first semester' hoped to encourage students to be more adventurous in their learning and to begin their university life with less stress on academic performance. Under the new system, University officials suggested students could choose courses based on their interests, 'rather than on optimising their grades' (Tan 2014). Indeed, in our respective positions at National University of Singapore as a faculty member and faculty development personnel, we know that many students are so concerned about grades that they often choose majors and modules based not on their interests, but on what will lead to the highest GPA. The University hoped the new system might inspire students to be more daring, such as by taking an unfamiliar elective in their first semester – physics for a music major or vice versa – without fear that a poor grade might derail the start of their university career. It was also hoped such a system would help with student retention by relieving the stress of starting university and giving students time to adjust to heightened academic expectations. The Office of the Registrar explained the policy this way:

> The Grade-free First Semester scheme [...] aims to provide a supportive and enabling environment for undergraduates to make a successful transition into the academic and social culture of university life. It serves to facilitate a transformation in students' mindsets towards grades and learning in the university setting, as well as enable students to leverage opportunities for a holistic education. The [grade/pass/fail] option is also intended to encourage students to pursue their intellectual interests, without undue concern that exploring a new subject area may adversely affect their CAP [GPA].

Crossouard (2010, 252) argues that 'assessment and self-evaluation instruments do more than simply reflect learning; they have a powerful effect in shaping and producing the learning that takes place.' National University of Singapore's efforts seemed to extend Crossouard's claim, by suggesting that an assessment system might shape learners too. The University wants gradeless learning to do more than reduce student stress and smooth a student's transition into the academic and social culture of the university. The University believes that eliminating grades can make students less competitive and more collaborative, thus producing the kind of risk-takers and lifelong learners the nation desires. In other words, Singapore and National University of Singapore see the incorporation of gradeless learning in higher education as an essential step in shaping the nation's future.

But first, the nation's education system must convince Singaporeans to de-emphasise grades. This may be difficult in a country that proudly claims to be a meritocracy, in which students get fast-tracked into advanced courses from an early age based largely on their grades, and where excellent results can lead to upward social mobility, both via better access to higher education and higher starting salaries for fresh university graduates. De-emphasising grades may be difficult in a country where parents pride themselves on their children's educational achievements and pupils as young as 11 have committed suicide because of poor results (Channel News Asia 2016). Indeed, National University of Singapore students, nearly all of whom are Singaporean citizens or

Permanent Residents, have successfully navigated this grade-centric education system in order to get this far, so changing their attitudes and behaviours with regard to grades is no small matter.

To complicate matters, despite its name, the 'grade-free first semester' may have the spirit of gradeless learning, but it is not grade-free. During the semester faculty members are expected to teach their modules as usual, which includes giving assessments (essays, quizzes, group projects, final exams), while students are expected to complete these assessments as in any normal graded learning environment. At National University of Singapore faculty members allocate numerical marks for each student, which are translated into letter grades (A, B, C, D, F) at the completion of the semester. Modules only become 'gradeless' after the final grades are released to first-year students, who then must choose 1) the grade they earned, 2) a pass (for a C or higher), or 3) a fail. For example, a student who earns an A will likely keep the grade, which will appear on their transcript and bolster their GPA. However, someone who does slightly worse (such as a B+) will likely choose a 'pass' instead. They will earn the module credits, but the B+ will not appear on their transcript or figure in their GPA. Finally, a student who earns a C- or lower will choose to 'drop' the module, without any negative impact on their GPA or any academic credit for completing the module.

This hybrid grade/pass/fail system aims to maintain the university's academic standards by not compromising the difficulty of modules and their assessments, while simultaneously providing first-year students a less stressful start to their academic careers since they can treat the first semester as gradeless. However, the result is a system in which grades still count. Faculty still assign grades, and all first-year students must decide how much those grades count by choosing a grade, pass, or fail. This leads most of the potential benefits, but also the responsibility, of gradeless learning to fall on the shoulders of new students.

As a result, an important partner in the higher education landscape has been largely left out of this new 'grade-free' learning environment: faculty. Faculty members at National University of Singapore have been asked not to alter their modes of instruction or assessments, and they are expected to assign grades as usual. Moreover, most first-year students enrol in modules with students who are not eligible for the grade-free first semester. This is because all students must take electives outside their major (and faculty), which can be done any time during their three years (or four years for those who pursue honours) of the university. This means a large general education module offered in the first semester, like Introduction to Japan, might have 300 first-year students and 100 students in their second year and beyond. The 'grade-free first semester' only applies to the 300 first-year students, who attend lectures and tutorials and join graded project groups with the other students. This combination of factors puts faculty members in an awkward position in the University's gradeless learning effort. While the University insists that everything has changed for incoming students, faculty members must continue to teach, and grade, as if nothing has changed.

Methods

We initiated a study of the 'grade-free first semester' in 2014, immediately following its implementation. Initially, we aimed to discover the perceptions of and reactions to the system by students. We created an anonymous online survey consisting of 24 questions hosted in the university's learning management system and recruited participants via e-mail. The survey asked about year of study, gender, and faculty, as well as more pointed questions about the new hybrid grade/pass/fail system and how it might affect student well-being and learning attitudes and behaviours (Figure 1).

We first ran the survey in August 2014, precisely as the school year began and the system was being introduced to a new class of incoming first-year students. We followed with two more iterations of the survey roughly every six months, at the start of the following two semesters. This allowed us to track responses to the system over time and to record not only impressions of what *might* happen following the implementation of the grade-free first semester, but also reflections on

Name of the Survey	Student Survey #1 (SS1)	Student Survey #2 (SS2)	Student Survey #3 (SS3)	Faculty Survey (FS)
Timeline	August 2014	January 2015	August 2015	December 2015
Survey Period	**3 weeks** (15 August 2014 – 7 September 2014)	**3 weeks** (12 January 2015 – 31 January 2015)	**4 weeks** (31 August 2015 – 30 September 2015)	**4 weeks** (10 December 2015 – 15 January 2016)
Total Responses (N)	**1207**	**748**	**1336**	**498**

Figure 1. Survey timeline and participation.

actual changes in student stress, learning attitudes and behaviours, and other possible-unintended consequences. We targeted first-year students, who were the intended beneficiaries of the system. However, each of the first three surveys was open to all students and faculty members. Overall, we received 3291 responses in the first three surveys, 98% of which were from students. We identify these as Student Surveys 1 (N = 1207), 2 (N = 748), and 3 (N = 1336) (hereafter SS1, SS2, and SS3; see Figure 2).

Following the three surveys aimed at students, we turned our attention to faculty members. We redesigned the survey and sent it exclusively to faculty in late 2015/early 2016 (Faculty Survey, hereafter FS). This was roughly 18 months after the grade-free first semester had been first introduced, which meant most faculty respondents had taught at least one semester in which first-year students utilised the hybrid grade/pass/fail system. We asked faculty their impressions of the grade-free first semester, how the system impacted student learning, and if/how they had adjusted their teaching and/or assessments in response to the system (see Figure 1). Four hundred and ninety-eight faculty members or roughly 20% of the total responded. Our sample included 348 men (70%), 145 women (29%), and 5 (1%) who declined to answer. Incidentally, the male to female ratio of respondents was near the University's gender composition of faculty.

Demographic Information

- Faculty/School
- Gender
- Email address
- Year of study*
- Declared/Intended major(s)*

Awareness and Opinion

- Are you aware of the grade-free education policy?
- How well do you understand it?
- What is your opinion of the policy?
- How did you learn about the gradeless first semester?
- Do you think the gradeless first semester should be expanded to a full year? Please explain.
- What is the best thing and the most problematic thing about the policy?*
- Please elaborate on your impressions about the grade-free education policy, including positive elements, concerns, ambivalences, etc.#

Impact of the Policy

For students:

- How did the policy impact your…
  - module selection?
  - study habits?
  - choice of major?
  - stress level?

For Faculty:

- How did the policy impact your…
  - students' motivation, behaviour, work ethic, attendance, etc. Provide examples.
  - current pedagogy (e.g. lecture content and style, assessments, etc.)? Provide examples.
- How might you alter your pedagogy in the future?

Final Comments

- Do you think the gradeless first semester has allowed you to take risks and explore subjects you might not normally choose to read?*
- Who benefits most from the gradeless first semester?
- Who benefits least from the gradeless first semester?
- Please feel free to share any additional comments you may have about the policy.

All items unless otherwise specified were common to both students and faculty
*Students only
#Faculty only

Figure 2. Survey structure and questions.

All four surveys were conducted in English, and the University's Institutional Review Board approved the research. We analysed all quantitative data (such as demographic data and responses to Likert scale questions about the policy) with SPSS. We subsequently used the qualitative analysis tool called Rapidminer to analyse all the text responses to the open-ended questions. This allowed us to systematically categorise all responses and discover themes we might have otherwise overlooked by manually coding the text responses. Hereafter, we summarise the results from all four surveys, focusing in particular on the reactions from faculty, which are often overlooked in studies of gradeless learning.

Results: learning, stress, and motivation without grades?

Overall, our study finds students more supportive of gradeless learning than faculty. In fact, we found that student approval (or strong approval) steadily increased over time, from 66% in SS1 to 72% in SS3, as students became more familiar with the system (Figure 3). On the other hand, only 51% of faculty either approved (37%) or strongly approved (14%) of the system well into its second year. The next-largest category among faculty was the undecided (31%), followed by 18% who disapproved (12%) or strongly disapproved (6%) of the new system.

Despite this clear approval gap between faculty and students, both groups largely agreed on the question, 'What is the best thing about the grade-free first semester?' The most common replies to this open-ended question fell into two general categories: 1) improved student attitudes and behaviours toward learning, including taking more academic risks and 2) reduced stress, leading to a smoother university transition. Incidentally, these were also some of the key-intended outcomes of administrators and benefits identified by advocates of gradeless learning. Students and faculty also agreed when it came to identifying drawbacks with the new system. When asked the open-ended question 'What is the most problematic thing about the gradeless first semester?' the most common response was the inverse of one of the benefits: a negative impact on student attitudes and behaviours toward learning. In the following, we explore these benefits and drawbacks of gradeless learning from the perspective of students and faculty, which helps explain the approval gap mentioned above and reveals why faculty need to be better integrated into any gradeless learning system.

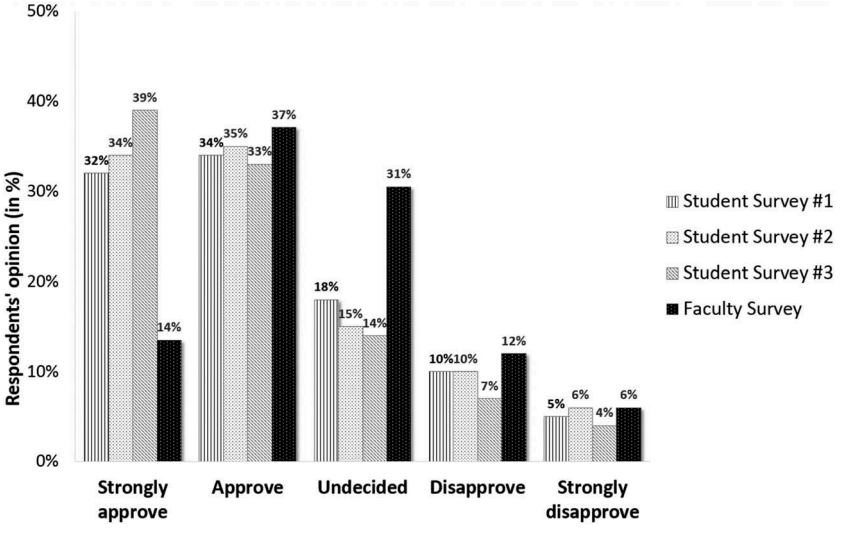

Figure 3. Student and faculty opinions of the grade-free first semester.

Benefit: improved student attitudes and behaviours

Students and faculty both suggested that one of the greatest benefits of the grade-free first semester is its positive impact on student attitudes and behaviours toward learning. Specifically, both groups admire that the system encourages students to take risks and be motivated to learn for the sake of learning, not for the sake of grades. As one student explained, 'The gradeless semester gives students the option to explore other majors without feeling the stress of having to do exceptionally well. This is especially so for students who have not taken a certain subject [before] and are thinking of pursuing something more out of their comfort zone in university. It, thus, allows students to not feel as if they're being cornered or there're [sic] consequences when trying something new.' Many other students agreed that without the pressure of worrying about what grades they might earn in a module, they could take more academic risks by trying unfamiliar subjects. Such exposure might even lead to a change in major to a subject previously unknown. For instance, a first-year student planning to major in a familiar subject like Geography might be inspired to take a module in South Asian Studies and then change major. According to respondents, the grade-free first semester provided students the freedom and confidence to try new subjects without concern for permanently damaging their GPA.

Many faculty agreed that the grade-free first semester led to improved learning attitudes among students. They highlighted the fact that the new system explicitly contradicted the existing grade-focused education system in Singapore. As one faculty member put it, 'university education is not all about grades.' Another emphatically explained that the new system makes concrete the university's (and her/his) belief that 'our students need to learn for life and not for exams! With this policy, it is even more important than before that educators inspire their students to learn! Educators need to be role models and teach in context!' For this individual, the grade-free first semester did not change the role of educators; it reminded them of their responsibility to contextualise student learning and explain its relevance, in order to inspire students to learn for more than the grade.

Our study found that faculty members recognised other positive changes in student learning attitudes and behaviours. For instance, one faculty member wrote, 'students understand it is only for one semester and they use it to explore new ways of thinking and organising their time as well as spreading their wings in co- and extra-curricular things. [. . .] The lack of grades does not inhibit their interest in the modules. Rather it makes them braver and prepares them to remain brave once they start their second semester in which the grades count.' Many faculty felt the grade-free first semester provided an environment in which students could take risks and learn from their mistakes. One faculty member found first-year students generally more 'willing to experiment in class, and to take a broader range of modules' because of the grade-free first semester. Another wrote, 'It allows students to take risks in their first semester and explore a new discipline they would otherwise be afraid of exploring due to the fear of obtaining a low grade.' Another agreed, writing that the hybrid grade/pass/fail system 'gives students the possibility to find their strengths and better decide' what they want to learn. Overall, faculty felt that without the burden of grades, students could be free to be curious, to experiment, and to risk making mistakes – the very traits scholars argue are essential for developing lifelong learners, and which the Singaporean government is trying to encourage to help build its future.

Seltzer and Bentley (1999, ix) argue that faculty members can play a major role in encouraging creativity in students by preparing students to 'take risks' and 'learn from failure'; giving them the freedom 'to make real choices' in their studies; and enabling them to 'make connections' and 'draw on diverse sources of information and expertise' from a range of contexts. According to our study, both faculty and student respondents agree that gradeless learning provides students with the confidence to make full use of such opportunities since it frees them from thinking about their grades. As one wrote, 'Grade-free terms (semesters) allow me as a professor to encourage students to try writing and researching extraordinary stuff, without running the risk of ruining their overall grades. This is a vital part of higher education.'

Benefit: less stress, smoother university transition

Incoming students everywhere often struggle to adapt to the higher academic expectations and new social pressures of university. Removing grades for at least one semester may provide first-year students some small reprieve. One student claimed the grade-free first semester 'removes the stress of having to excel in the first semester in university.[. . .] This allows us to make a smoother transition to university life, and gives us buffer time to find our footing before having to truly focus on grades.' Another noted that the system helped first-year students 'acclimatise to the university system,' particularly modules pitched at a more difficult level. This acclimatisation is considered especially valuable for two groups of students that typically require more time to adjust to university life: (1) international students, who have moved away from their families to study in Singapore, and (2) first-year male Singaporeans, who have been outside formal education for up to two years while completing their mandatory National Service (NS) duty in the military and civil forces. As one faculty member put it, the grade-free first semester 'would be particularly helpful for men who would have not been in the mode of studying during their NS days.' While the latter situation is relatively uncommon around the world, it speaks to the potential value of a period of gradeless learning to any student with an extended gap in their education.

Most respondents felt that reduced stress over grades during the first semester clearly benefited first-year students. However, we also found unintended benefits to those students not eligible for the hybrid grade/pass/fail system. For instance, both students and faculty noticed that fewer first-year students competing for an A in a module made it less difficult for the remaining students (in their second year and above) to earn a high grade. As one faculty member explained, '[First-year] students feel less stressful, and they don't put as much effort as when it is graded. On the other hand, students who take the same module feel they have less competitors, so it is good for them.'

Many faculty explicitly considered the current overemphasis on grades in both the university and the nation to be a problem, and they hoped gradeless learning might provide a solution, enabling students to 'enjoy academic life [. . .] without worrying about the grade.' Importantly, many respondents hoped that the hybrid grade/pass/fail system would allow students to do more than just have fun. One faculty member believed students were taking the experience 'positively and generally do not exploit it.' However, our findings show that not all faculty, nor all students, agreed with this optimistic assessment. In fact, some respondents felt that the freedom from grades at the heart of the alternative grading system led not to risk-taking and a broader desire for learning, but to complacency and an irresponsible delay of the inevitable: learning that will be graded. Such a response raises a deeper issue related to the cultural emphasis on grades that must be addressed before any gradeless learning can make a lasting impact on student attitudes and behaviours: both faculty and students seem convinced that grades are necessary to motivate learning.

Drawback: no grades, no motivation?

Scholars have long acknowledged a strong relationship between grades and student motivation, with some showing that students tend to develop strategic approaches to maximise their chances of getting a good grade, rather than increase their learning (Becker, Geer, and Hughes 1995). According to students and faculty in our study, one of the clear benefits of the grade-free first semester was that it disrupted the notion of learning for grades. Students could focus on the content and the experience of learning instead of worrying instead about earning an A. They. However, without grades as a motivator, many respondents worried that students had become complacent.

In response to the open-ended question asking what is 'most problematic' about the hybrid grade/pass/fail system, a greater percentage of students in each subsequent survey cited poor study habits. Only 20% of respondents suggested poor study habits might be an issue in SS1 when the policy had just been implemented, but no one had experienced it yet. However, 35% and 37% of students in the second and third surveys, respectively, mentioned poor study habits as the most

significant problem of the new policy. As one student explained, 'It is already a deep-rooted part of our culture to "study for grades," so without the incentive of grades, people may lose the motivation.' Interestingly, this comment appeared in the first student survey (SS1), indicating how students imagined the new system *might* impact learning behaviours and motivations.

Speaking from experience in one of the later surveys, another student wrote, 'Some students strategically exploit their gradeless first semester not to explore modules of their interest but to enhance their GPA such as focusing on studying only for 1–2 modules while neglecting the rest.' From this student's perspective, the hybrid grade/pass/fail system did not radically alter the student relationship with grades. Instead, it provided a way for students to strategise their learning to suit a grade-focused world.

Our study found that many faculty agreed that the grade-free first semester negatively impacted student learning behaviour, with tardiness, absenteeism from lectures, poor quality work, and other issues arising in the faculty survey. One faculty member explained the prevalence of these behaviours by emphasising what they considered the logical relationship between grades and motivation. 'It is essentially an economic problem–if grades are like currency, it makes sense to put in the least effort to gain the desired result [a pass]. Not having a grade sends a message that the module doesn't really matter. All students in the class are affected by this attitude, and learning suffers.' Another faculty member complained of worsening learning attitudes and behaviours: 'I have had fewer questions from students, and fewer face-to-face interactions and fewer email enquiries on harder topics.' Another claimed to have 'tried to keep the module at the same level of intellectual rigor as before the policy began, [. . .but] I received considerable pushback in the form of obvious student disengagement.' In all these cases, faculty worried that the grade-free first semester created an 'impression to the students that they do not have to take the modules seriously.' Even among faculty members generally sympathetic to the policy's aims, our study found them frustrated at being trapped in old ways of teaching. Since they were still expected to assign grades, many faculty members felt unable to adjust their teaching and assessments to suit the new system.

Our study also revealed a more specific concern raised by faculty: the hybrid grade/pass/fail system leads to 'discord in project groups' due to poor participation by first-year students. This issue is exacerbated by the fact that National University of Singapore has very few modules exclusive to first-year students. This means group projects whose members may have diverging learning motivations: for instance, first-year students who are actively encouraged not to take their grades too seriously assigned to a group with third-year students who are motivated by the expectations of society and future employers to earn the highest grade possible. Such diverging motivations are destined to collide and lead to frustration by older students, as well as by a select few first-year students who are striving to earn an A. As one faculty member wrote, 'Students planning to take the module for no grade [pass] refuse to pull their own weight in groups for projects, as it only penalises the other students who are taking the module for a grade.' In some cases, the presence of first-year students lowered the motivation of their group mates: 'Students are less willing to put in effort when there is a year 1 involved because the student is less knowledgeable yet not necessarily interested to put in a lot of effort.' Indeed, while we suggested earlier that older students receive an unintended benefit by having less competition for an A, they may also suffer from group work dragged down by one or more first-year students who would be satisfied with a C.

Overall, a slight majority of faculty members approved of the hybrid grade/pass/fail system, but even those who support the aims of the new system worry that it might lead to poor learning attitudes and behaviours, which in turn might lead to a decline in the quality of education at National University of Singapore. Indeed, many faculty expressed ambivalence with the new system, neatly summarised by this response: 'Good students who genuinely are concerned in learning, but not used to the university system, can be spared a low grade that does not properly reflect their inability. However, there is, in my view, a rather nasty unintended outcome and that is unmotivated surface learners work even less at understanding the material.'

Giving gradeless learning a grade

National University of Singapore's 'grade-free first semester' is an alternative approach to grading stemming from concern with the over-emphasis of grades at all levels of education in Singapore. Like other forms of gradeless learning, it attempts to both relieve students of the stress associated with grades and to inspire them to approach learning differently, i.e. not for the grade alone. Despite its designers' best intentions, however, the grade-free first semester faces several obstacles, some of which exist in gradeless learning in general. The first is that National University of Singapore students, like their peers around the world, have been socialised to be motivated and rewarded by grades, making it difficult to alter their learning attitudes and behaviours overnight. Both students and faculty members in our study acknowledged the thorny relationship between grades and student motivation: without grades, students are less likely to be motivated to attend class, complete homework, and do assigned reading. Indeed, many faculty members and students claimed the policy negatively impacted student motivation, behaviour, work ethic, and attendance. Previous studies of gradeless learning show similar results, as students tend to spend less time and effort on pass/fail modules than traditional-graded modules (Michaelides and Kirshner 2005). This seems to be an obstacle common in gradeless learning, as students need time and support to adjust to new expectations and find new motivations following years of conditioning in grade-centred schools.

An obstacle more specific to National University of Singapore's effort at gradeless learning is that the system is temporary: it only applies to first-year students during their first semester. For the remainder of their time at university, students return to a fully graded education. In other words, the 'grade-free first semester' only offers a brief reprieve from an otherwise grade-centric society. This may undermine any potential long-term effects of the University's alternate approach to grading. Even if students are inspired to radically alter their learning attitudes and behaviours during their first semester of university, such changes may not last, as they must immediately return to a grade-centric world after six months. Despite the University's intentions, which are aligned with those of the ruling government, the nation's relationship with grades will not change immediately, and it will not change because of a one-semester experiment that removes some of the pressure of grades for a select group of students. Without major adjustments throughout society, grades will continue to be vital for acquiring credentials, finding employment, and differentiating levels of student achievement. In fact, our study found that many faculty and students worried that the system would have no lasting effect. Moreover, members of both groups worried that students covered by the policy might delay learning valuable study skills and possibly miss essential content during their first semester. As one faculty member explained, without the motivation provided by grades students 'might not learn essential skills to cope with the harsh reality in the real workplace when they graduate.' Without altering the 'harsh reality' outside the bubble of the 'grade-free first semester,' our study found that some respondents considered gradeless learning futile at best, and damaging at worst.

Third, despite its name, the system actually incorporates grades. As mentioned above, all students earn a grade in each module. Only first-year students have the freedom, and responsibility, to decide whether to keep the grade or accept a pass, with a C or higher. Our study found that this partial approach to gradeless learning frustrated and confused many faculty members in particular. One wrote that as the module began, 'I tried to persuade students to opt for no-grade [grade/pass/fail]. [The University] informed them that they can only opt for no-grade after they received their grades! So it was back to square one – Competition.' This faculty member wanted students to declare their intention to opt for gradeless learning at the start of the semester, which would have removed the stress of grades and changed the teaching and learning experience entirely. Indeed, the faculty member seems to long for the pedagogical novelty of such a scenario. However, the hybrid nature of the system, which still requires grades and incentivizes some first-

year students to try to earn an A, forecloses the possibility of a pedagogical shift that would truly liberate student learning, and faculty teaching, from the yoke of grades.

Finally, faculty have not been fully incorporated into the gradeless learning system. Our study found that many faculty members believe that in theory gradeless learning creates new opportunities and adds new demands of them, such as the need to motivate student learning with more than the threat of a poor grade. However, regardless of their willingness to participate in this new gradeless learning initiative, they have not been invited to do so. Indeed, the university explicitly asked them not to adjust their teaching, and it requires them to continue assigning grades. Half a century ago Teaf (1964, 102) suggested that a gradeless learning policy offers academic staff the possibility to pay greater attention to the 'truly educative aspects' of a module while gaining a deeper understanding of students' needs and characteristics. Some faculty respondents recognised the need to motivate students in new ways: 'It is even more important to inspire them to learn. Once that is achieved, they are highly motivated.' However, faculty have not been given the tools or encouragement to revise their teaching methods to suit gradeless learning. In fact, like the faculty member quoted above, they seem actively discouraged by the University from paying attention to those 'truly educative aspects' of their teaching.

Moreover, many faculty members feel they do not sufficiently understand the new system. In fact, a majority (61%) admitted they did not understand it well or had lingering questions about how it operates. As one respondent wrote, 'The real implication of the policy could be explained to both faculty members and students so that we are able to act accordingly.' Such fuzziness can only cause confusion and frustration and might explain why 31% of respondents were undecided when it came to whether or not they approved of the policy, and a majority (56%) did not support expanding the system to a full year, which in fact occurred in mid-2016.

Lack of policy understanding by relevant stakeholders can limit any policy's potential to inspire innovation. Changes to institutional teaching and learning policies are generally facilitated through workshops, teaching and learning clubs, and other academic development interventions. However, Knowlton (2010) argues that support for any substantive policy change is largely determined and driven by a change in an academic's epistemological stance. This requires changing how faculty members recognise and embrace the nature of teaching and learning itself. Based on our results, more effort is needed on this front. Our study suggests that in order for faculty members to participate in something as radical as gradeless learning, they need opportunities to reflect on the purposes of, and alternatives to, letter grades. Also, they need to be encouraged to consider new forms of teaching and assessment that do not rest on the firm belief that grades are essential to motivate and measure learning, such as those highlighted in the New Pedagogies for Deep Learning project (2013). Overall, having faculty members fully invested in gradeless learning may be essential to bring about the radical changes in student learning imagined by advocates of gradeless learning.

Conclusion

The question of whether or not to grade remains vital in higher education, as grades continue to be blamed for excessive stress among students and negative impacts on student learning. Efforts to eliminate grading, particularly in institutions of higher education, have been limited due to inertia and the value placed on grades outside the university, such as in the job market or in the everyday conversations of proud parents. This combination of factors indicates the difficulties of disrupting the continued place of letter grades in higher education.

Following the introduction of a 'grade-free first semester' at National University of Singapore, we found that students and faculty generally supported the idealistic aims of gradeless learning. They believed it could lead to less stress on students and more willingness to learn for the sake of learning. However, faculty members, in particular, felt confused and frustrated by their peripheral position in this new endeavour. Some hoped a nominally 'grade-free' learning environment would free them from the burden of grades and allow them to be more experimental in their teaching.

Instead, they were asked to continue business as usual, even as students were encouraged to conceive of their learning in liberating new ways. At the same time, many faculty continued to believe grades were necessary to motivate and measure student learning, and they worried that gradeless learning had led to poor study habits.

Overall, our study suggests that the implementation of gradeless learning cannot easily undo decades of grade-centric thinking among faculty at National University of Singapore or in Singapore in general. At least one student found the effort futile: 'Competition is still apparent with or without this gradeless first semester. This is the Singapore culture. We can't change that fact. It is ingrained in us. [. . .] Stress is here to stay. Gosh, I'm so stressed thinking about it' (SS3). It will require years of gradual change at all levels of education to relieve the kind of fundamental stress and competition felt by such a student, and faculty members should not be overlooked in implementing such change.

Our study suggests that successful implementation of any gradeless learning system requires the cooperation of faculty members. Just as students are encouraged to explore new subjects and to be inspired to study without worrying about grades, faculty should be encouraged to rethink how they design modules and assessments. They need opportunities to reflect on and discuss their underlying beliefs about grades (and gradeless learning), as well as their concerns with changes to grading practices and policies (Anderson 2018; Lee et al. 2018). Indeed, in order to maximise the effectiveness of gradeless learning in shifting student attitudes and behaviours – to be curious, to experiment, and to risk making mistakes – not to mention reducing student stress and maintaining student motivation, faculty must play an active role.

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