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A Short History of Grading Practices at Dalhousie University (1901-2021)

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Abstract

Grading practices at Dalhousie University have changed considerably over the past 120 years. From 1901 until the early 1970s, Dalhousie used a variant of the British system. Initially, a grade of 65% or higher was required for distinction. In 1937, Dalhousie moved to a 2-category system (Distinction vs. Ordinary Pass) and in 1942 the distinction grade cutoff was lowered to 60%. By the late 1940s, "Second Division" was subdivided into Seconds and Thirds, and First Division required an 80% or higher. By the late 1960s, there were conversions between American letter grades (A, B, C, D), divisions, and percentage grades. Moreover, a 4pt "merit point" system served as a prototype to Grade Point Averages (GPA). Experimental teaching and grading practices were explored in the 1970s. Officially, percentage grades were abolished and replaced with an 11-point letter grade scale from A+ to F. Unofficially, most professors and departments used idiosyncratic percentage-to-letter conversion schemes, though they were eventually standardized within (but not across) departments. In the 1990s, the 4.3 GPA system was standardized university-wide largely because it was thought to give students a competitive advantage for federal scholarships. In the 2010s, Dalhousie standardized percentage conversion schemes across all departments into one unified Common Grade Scale, partially due to GPA requirements for scholarships and graduate schools but also in response to student complaints about inconsistency. Overall, most grading changes in the past 120 years were implemented for the external communication value of grades rather than for their pedagogical value.

Keywords

Dalhousie, exams, GPA, grades, history, letter grades, marks

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Grading is a central and necessary part of university life for instructors and students alike. Most institutions have developed policies to constrain how grades are reported to students. For instance, virtually every institution in Canada used a percentage or letter grade system in 2019, though there was wide variability in the percentage-to-letter conversion systems and number of letter categories used (University of Manitoba, 2019). Though instructors frequently have their own individual philosophies about the role of grading in their pedagogy, most of us lack the context for *why* grading schemes exist in a particular form within their own institution. In the present paper, we tracked the history of grading practices at a single Canadian institution. It is hoped that a discussion of the origin and evolution of grading practices over time can promote more critical understanding of why grades exist in their current form. Greater understanding about the history of grading may improve dialogue about the necessity, purpose, and format of university grades in present day.

To our knowledge, there are virtually no comprehensive historical summaries of grading practices in Canada (c.f., Schneider & Hutt, 2014 for a historical review of grading in the United States). A unique difficulty in summarizing Canadian educational policy has been the heterogeneity across provinces and institutions. Higher education in Canada has been unusually decentralized compared to virtually all other systems world-wide. There has never been any national system and historically, each province has used its own set of rules and priorities (Jones, 2014). Universities have historically enjoyed a great deal of autonomy, with provincial governments leaving each institution to determine its own objectives and methods with few regulations (Jones, 2014). This decentralization and lack of federal regulation has also meant that the Canadian government has placed comparatively little effort in collecting systematic, high-quality data compared to most other places in the world (Usher, 2021). With this context in mind, any historical review of university policy in Canada is by necessity specific on a given province and institution, and it resists generalization to Canada as a whole. Some unique features of the Nova Scotian context are its high density of universities relative to a comparatively low population – this has tended to mean that each university in Nova Scotia has received less government funding, and that institutions have a higher proportion of out-of-province and international students (Usher, 2021).

As employees of Dalhousie, we naturally chose this institution as a case study due to accessibility of records and because it has local, community-level interest. The audience was intended to be members of the Dalhousie community; however, it may also be a useful point of comparison for other institutions, should similar histories be written. Dalhousie University is a Canadian university founded in 1818, located in Halifax, Nova Scotia. Dalhousie has been a member of Canada's U15, a collective of the top 15 research-intensive universities in the country that collectively accounted for close to 80% of the peer-reviewed research funding in Canada in 2020 (U15 Group of Canadian Research Universities, 2020). Dalhousie enrolled 16,002 undergraduate students and 4,184 graduate students in 2021 (Dalhousie University, 2021); however, it has historically been the smallest university in the U15 in terms of enrollment and research income (U15 Group of Canadian Research Universities, 2020). Thus, throughout much of its recent history up to present-day, Dalhousie was a large, prestigious research institution in Canada, but it has been frequently ranked behind many of the other U15 on various metrics (e.g., it ranked 12 of 49 in Canada in a recent reputation survey; Maclean's, 2020).

The sources used for this review primarily include university calendars, student newspapers, and Senate[1] minutes. All three sources were meticulously archived at Dalhousie, with virtually no gaps in record-keeping over the past 120 years. In contrast, departmental and faculty-level meeting minutes tend to have a great deal missing and what exists in the archives is much less organized (C. Barrett, personal communication). University calendars were useful primarily for establishing a basic timeline for when academic regulations became official for students. The student newspaper (the Dalhousie Gazette) gave special insight into the lives and attitudes of students throughout the history of the university. Senate minutes (and other associated Senate documents) provided insight into the decision-making process underlying the policy changes in the university calendars, as the primary institutional body for academic regulations. Nonetheless, Senate minutes and committee reports are summaries of discussions – not transcripts – so most verbatim discussions are now lost to history. Thus, the sources used showed what policy changes were implemented, when they were implemented, and a general sense of whether there was opposition

1. Most Canadian universities have a bicameral governance structure with a Board of Governors/Directors handling the financial business of the university and a Senate handling academic issues, including academic regulations such as grading policy (Jones, Shanahan, & Goyan, 2004).

to changes; however, there were notable gaps in faculty and student reactions to grade policy changes, as these reactions were frequently not written down and archived.

We found that Dalhousie used a variant of the British system for much of its early history before eventually becoming a hybrid of British and American grading systems. Historically, grading policy was unstandardized and decentralized, with each department left to develop their own policies. However, from around the 1990s onwards, there was an institutional push towards increased standardization culminating in a university-wide standard grading scale implemented in 2014. With a few notable exceptions, we argue that most major grading changes at Dalhousie in the past 120 years were implemented to improve the external communication value of the grades, rather than for pedagogical reasons.

1901-1936: First and Second Class Standing

In the early 1900s, Dalhousie's enrollment ranged from 365 in 1901 to 872 in 1936 (Waite, 1998a; 1998b). Very few people in Canada attended university at this time in history, and Dalhousie held students to very high standards, seeing their role as training an elite few. Nonetheless, in some ways, a Bachelor's degree at Dalhousie has not changed much in the past 120 years; in 1901 a Bachelor of Science (BSc) was expected to take four years and students tended to specialize in specific fields of study. Rather than high school entrance requirements, students were required to pass difficult matriculation examinations (i.e., entrance exams) to enroll in a degree program. Students were assessed and graded with degree examinations. The results of these degree examinations were publicly listed in the university calendar, with four categories of passing grades. In order from highest to lowest ranking: High first class, first class, second class, and ordinary passes[2].

In the Faculty of Arts section of the 1901-1902 calendar, it describes how grades higher than an ordinary pass were to be obtained:

> "In addition to the ordinary work of the classes required for the attainment of a position in the Pass List, additional work, consisting of private reading, essays, reports, etc. is prescribed for students who aim at Class Distinction, special examinations being held in such additional work at the end of the Session. The award of such distinctions is based on the whole work of the class, ordinary work as well as the additional…" (pg. 55-56).

As might be expected, Class Distinction (i.e., Second, First, and High First-Class grades) was comparatively rarer than an ordinary pass. As early as 1901, students could also achieve degrees with "honours" or "distinction" in a similar fashion to modern times. In general, these degrees were awarded to students who achieved distinction (i.e., first/second class grades) across numerous classes. Moreover, honours students often had to enroll in special by-permission classes gated by grades. This stratified grading scheme was clearly much more appealing to those who could meet the high standards set by their professors; however, it alienated other students who merely "passed" their courses, as one Dalhousie student noted:

> "In Dalhousie life is a thing of marks, of High Honours, of Great Distinction; and the life of the Dalhousie man who cannot make seventy-five is of all lives the most miserable. […] None but the heart of the Dalhousie man who cannot make marks knows the inner bitterness and business of the place. […] the very atmosphere of the place is charged with the spirit that makes the clever man happy and the dull man miserable." (Baird, 1903, pgs. 199-200).

Distinction was highly sought-after, but most students were ultimately disappointed. Evidently, there was early dissatisfaction with the "divisions" system among the larger majority of students who failed to obtain class distinction.

2. The terminology used is somewhat inconsistent over time. In the class lists, terms used are: Class I, Class II and Pass with "High First Class" indicated with a * symbol. However, later in this period students seem to informally refer to "First Division" and "Second Division" to mean fundamentally the same thing as Class I and Class II, respectively.

The Pass Lists were published in the university calendar along with all the names of students. There were two lists, the ordinary pass list and the distinction lists, each with different rules for what order student names were presented. The university experimented with various orders to present the student grades over the years, but presented student names either in order of merit or in alphabetical order (see Table 1). The 1923-1924 calendar was the last calendar to list student grades. After this, students presumably accessed a public list posted on campus – a practice that continued for a long time until eventually superseded by electronic methods of providing students with their grades. Naturally, this physical location was dreaded by students, and was colloquially referred to as "The Morgue" (Anonymous Dalhousie Gazette Author, 1937).

Various secondary sources suggest that a percentage-based grading system was used (e.g., in the Faculty of Medicine, the 1901 calendar talks about requiring a minimum grade of 50%; pg. 114). However, there is no official conversion scheme in the calendar for converting percentage grades into one of the grade classifications formally used in Arts and Science[3] faculties until the 1924-25 university calendar. Starting in 1924, a percentage grade of 65% was required for distinction in the Faculty of Arts and Sciences. Moreover, a passing grade was 40%, so second division likely incorporated grades from 40-64%. A 1927 article in the Dalhousie Gazette corroborated this; moreover, the student complained about a lack of transparency in grading:

> "Why are our marks not given to us? It is a fair question and yet, during the four years that the writer has been at Dalhousie, it has never been answered although he has heard it regularly after every set of exams. [...] If he is so fortunate as to fall into the first division then he has no cause for worry, but if he comes in the second division, then he has reason to be disturbed. He may have made any mark between 65 and 40 and as the names are posted in alphabetical order and not in order of merit, he can get absolutely no inkling as to how he stands. [...] Other colleges give marks, why not Dalhousie?" (Stairs, 1927).

Even at this early stage, we see that students were concerned about the external communication value of their grade; they wanted to know where they rank relative to their colleagues. This quote further suggests that a grade of "40-65" constitutes "second division" so a grade of 65+ was probably indicative of a first division grade. Taken all together, a summary of the grading schemes in use in this period is presented in Table 1.

1937-1947: Divisions are temporarily replaced with a simple two-division system

Starting for students entering in 1936, there was no longer any official reference to First/Second class standing in the university calendars. Instead, student grades in the Faculty of Arts and Sciences were simply subdivided into Distinction vs. Ordinary Passes. The reasoning behind this is not entirely clear, because discussions of grade changes during the 1930s and 1940s were not described in any of the Senate minutes. This is perhaps in part due to university president Stanley's antagonistic approach to the Senate – he thought many in the Senate were incompetent, and often tried to circumvent their processes (Waite, 1998b, pg. 60-61). Three major events related to Stanley described by Waite (1998b) around this time may have contributed. First, Stanley tightened admission standards around 1931, relenting in 1936 because it had reduced enrollments (decreasing 24% in Arts and Science between 1931-32 and 1935-36; Waite, 1998b, pg. 88). Second, on May 30, 1936, Stanley fired the long-time registrar, Murray McNeil, after a longstanding interpersonal feud. Third, C. B. Nickerson was appointed dean of Arts and Science in June 1936 – prior to this, Stanley was simultaneously the university president and the dean (Waite, 1998b). Most likely, the grade change policies arose due to administrative simplification needed in the chaos left behind by the registrar's firing. This remains speculation because of the absence of records in the Senate minutes during this period, but secondary accounts of Stanley suggest that he may have unilaterally made some changes himself, which would account for this absence of records.

3. Note that the Faculty of Arts and Faculty of Pure and Applied Science merged into a single faculty known as the "Faculty of Arts and Science" in 1906. This persisted until 1987 where they split again into separate Arts and Science faculties.

Table 1. Grading Schemes for Faculty of Arts and Sciences at Dalhousie 1901-1951

Year	Pass Grade	Distinction Grades	Distinction List Order	Pass List Order
1901-1911	40%	High First Class* First Class Second Class	Alphabetical within each grade category	In order of merit
1912-1921	40%	High First Class* First Class Second Class	In order of merit within each grade category	Alphabetical Order
1922-1923	40%	High First Class* First Class Second Class	In order of merit within each grade category	In order of merit
1924-1936	40%	High First Class (65+)* First Class (65+) Second Class (40-64)	In order of merit within each grade category	In order of merit
1937-1941	40%	Distinction (65+) Ordinary Pass (40-64)	In order of merit, no division into grades	In order of merit
1942-1947	40%	Distinction (60+) Ordinary Pass (40-59)	In order of merit, no division into grades	In order of merit
1948-1951	50%	Three Divisions First Div (80-100) Second Div (65-79) Third Div (50-64)	Alphabetical Order	Alphabetical Order

* A standing "considerably above that required for first class". Source of information comes from university calendars 1901-1951.

In the Faculty of Arts and Sciences from 1937-1941, the percentage cutoff for distinction was 65% which was lowered to 60% from 1942-1947. The criteria for distinction (i.e., the extra work required) was determined in an idiosyncratic way by each department. The obvious influencer was the impact of World War II. By 1940, all universities required that male students receive compulsory military training (Millar, n.d.). By Christmas 1942, male students who were not in good academic standing were immediately eligible for military service (Anonymous Dalhousie Gazette Author, 1942). Likely, academic standards were somewhat relaxed given the dire consequences of failure. Corroborating this, the cutoff for failing grades was not increased until shortly after the war (Senate Minutes April 16, 1946; February 6, 1947) though no rationale for these changes were given in the Senate minutes. The next major change in grading practices would not occur until after the war, with a new influx of veteran students.

Late 1940s: The 80% Grade Cutoff Emerges

Like so many stories in Canada, Canadians had to find a compromise between the dual influences of Great Britain and the United States.[4] The grading system in Britain was fundamentally aristocratic and competitive in its history; students were ranked in order of ability and separated into "classes" that reflect their relative worth (Winters, 1993). The history of grading in the United States is deeply entwined in the mental testing movement driven by psychological researchers and the administrative burdens of

4. See Appendix A for a brief description of modern grading practices in Britain and the United States.

rapidly increasing student populations (Schneider & Hutt, 2014). For the purposes of this focused review, three points are of specific interest: (a) By the 1940s the A-F letter grading scheme had become dominant in the US; (b) the next two most popular systems, the 4.0 GPA scale and the percentage grading systems would eventually become fused with the letter system for administrative convenience; and (c) standardized grading systems were primarily valued as an external communication device, rather than an pedagogical aid (Schneider & Hutt, 2014).

Dalhousie students seemed aware of the discrepancy between British and American systems, but did not necessarily want their university experience to be more Americanized:

> "…in a University whose authorities are gladdened by the fact that it is 'in imitation' of an Old World University, shouldn't they also want more of the casual atmosphere to separate it from the American idea of mass education, by learning one day and imparting all your knowledge on the next?" (Anonymous Dalhousie Gazette Author, 1938, pg. 2).

Nonetheless, the discrepancy between British and US grading systems clearly left some students at Dalhousie dissatisfied with the British scheme, as they felt they were at a disadvantage when seeking entrance at universities in the United States:

> "Evidently a firm belief that the great majority of students do not rank as, and can never achieve to, "first div" or 65% bracket, that a fairly impressive percentage must be failed altogether, and that most undergraduates are 40-50% material […] Exchange and graduate students, seeking entrance at other universities, can feel proud to present a record of studies showing a 70% average at Dal […] Yet this same student, presenting his record at an American university, is probably slated for a very cool reception, for 70 to a graduate school, accustomed to receiving men from colleges where 80s are considered 'a fairly good showing', is not impressive" (Anonymous Dalhousie Gazette Author, 1943, pg. 2).

Thus, there was clearly some pressure from students to adopt a scheme that would allow Dalhousie degrees to retain their value when transferring or applying to graduate schools in the United States.

The 1940s were also a time of substantial increases in enrollment and changes in the nature of the student population at Dalhousie. Waite (1998b) noted that Dalhousie's enrollment almost doubled from 1943-44 (n = 654) to Fall 1945 (n = 1153). Waite also noted that war veterans accounted for nearly half of these new enrollments for due to the Veterans' Rehabilitation Act, which provided \$60-\$80[5] a month to support veterans that wanted to attend university. Though Dalhousie had an unusually high proportion of veterans enrolled relative to other maritime universities during this period (Turner, 2011), the Veteran's Rehabilitation Act was a turning point for large increases in enrollment and government funding Canada-wide, at least until the economic recession of the 1970s (Jones, 2014). In 1948 – the same year the Faculty of Graduate Studies was founded (Dalhousie Senate, 1948) – Dalhousie's grading scheme changed substantially. Dalhousie began using percentage grades and "divisions" that seem broadly similar in character to first/second class distinctions. Specifically, the 1948-49 calendar describes the following categories and conversions in the Faculty of Arts and Science: First Division (80-100), Second Division (65-79), and Third Division (50-64).

After reviewing the Senate minutes from the 1940s, we found no reference to this grading change except for increasing the pass grade from to 55% in Law (Dalhousie Senate, April 16, 1946) and 50% in Arts and Science faculties (Dalhousie Senate, February 6, 1947). Though we were unable to uncover why the cutoff for the highest level of distinction increased from 65+ to 80+ in our research, we speculate that the reasoning for this change was straightforward. A grade of 80+ was essentially meeting the American (90+) and British (70+) systems half-way, thus allowing grades awarded at Dalhousie to be roughly comparable in character to both American and British universities – partially addressing student concerns about applications to graduate schools in the United States. As we will see moving forward, Dalhousie continues to use 80+ as the criterion for our highest level of grades (As) even in present day.

5. Accounting for inflation this is roughly equivalent to \$932-\$1242 in 2021.

1950s – 1970s: The Advent of Letter Grades

Waite (1998b) noted that Dalhousie's enrollment quadrupled from 1950 (*n* = 1553) to 1970 (*n* = 6616) – this is noteworthy insomuch as most major changes in grading at Dalhousie seem to come shortly after large enrollment changes. Likely, the vast increase in student enrollment without commensurate increase in teaching resources forced teachers to rely more heavily on standardization. By 1967, admission requirements were increased to require grade 12 instead of grade 11 (McIntosh, 1966; Phinney, 1967). Moreover, a standardized conversion table for the various competing grading standards worldwide (letter, division, percentage, and 4pt GPA scales) was in use in the Faculty of Arts and Science and Faculty of Health Professions at Dalhousie (see Table 2). Examinations were still graded using "divisions" using the percentage conversions that emerged in 1948. Aggregate grades across a whole degree were assessed with an early 0-3pt[6] scheme; students were required to score 40pts or higher in 15 courses to obtain a degree "with distinction" (university Calendar, 1967-68, pg. 77). Baldwin (1960) noted that the criteria for "High First Class" grades in the humanities was around 75-80% at Universities of Toronto, Alberta, and British Columbia in 1960, suggesting that Dalhousie's system was similar to other research-intensive universities around this time. In sum, this was the most standardization Dalhousie has in grading to this point – and it was notably short-lived.

Table 2. Grade Conversions at Dalhousie in 1967-68

Division	Letter	Percentage	4pt Scale
First Division	A	80-100	3
Second Division	B	65-79	2
Third Division	C	56-64	1
Third Division	D	50-55	0

Note. This conversion scheme was in use in the Faculty of Arts and Science and the Faculty of Health Professions. This 4pt scale was an early precursor to GPA, and Dalhousie eventually referred to this 4pt scale as "merit points."

As standardization in grading practices took hold in many parts of the world, there was a concomitant resistance from educators who resented the dehumanizing influences grades had on the classroom environment (Schneider & Hutt, 2014). In general, instructors criticized grades as an obstacle to good pedagogy and there was increased interest in experimentation in new ways to grade students. For instance, Weller (1984) provides data showing that there was a brief surge in interest in Pass/Fail grading schemes in the United States from 1967-1974, before most institutions reverted to percentage and/or letter grading schemes. Around this time, Bloom (1968) also introduced the idea of "learning for mastery" wherein the focus turned away from assessing innate aptitude or intelligence to ways to help all students achieve mastery in their own timeframe; mastery-based learning remains a substantial niche interest to educators to this day. Overall, the social zeitgeist was ripe for radical changes in grading.

Dalhousie was entering an experimental grading phase. Waite (1998b) noted that a committee was struck in 1969 to re-evaluate the use of examinations; it urged massive changes to the whole system including the abolishing of exams as an unreliable measure of achievement. Evidently, a temporary "optional exam" system was tried in 1969, but and was abolished the very next year, as described by students in a 1971 issue of the Dalhousie Gazette:

> "Methods "A" and "B" of compiling marks do not exist in university regulations. On April 17, 1970, the faculty of Arts and Science met and voted to abolish the system, used experimentally during the last academic year […] professors may now use any grading plan adaptable to their particular course. They are required to notify their students about their plan during the first two weeks of classes."

6. This 0-3pt scale was an early precursor to GPA. Stroup (1963) noted that, in the United States, the "honor point" system was originally divided as a -1 to 3 scale, with Fs being designated as a -1. Apparently, the negative number for F's made it slightly more time-consuming to calculate with mechanical calculators; thus, the scale was changed to a 0-4pt scale to speed up the calculations. Dalhousie eventually converted to the standardized 4.0 GPA scale later, averaging across the points instead of summing and using a 5pt scale from 0-4. Presumably, summing was used early on at Dalhousie for speed of calculation.

The former "A" method consisted of marks based on the year's work, term papers, assignments, etc., with a formal examination at Christmas the end of the year. The "B" method was based primarily on class work, papers, etc. Under this method, provisional marks were to be posted in late March, and students had the option of taking a final exam to raise their mark. However, it was understood that, providing students completed the course satisfactorily, their provisional mark could not be lowered." (Moore & MacLean, 1971, pg 1).

Ultimately, Waite (1998b) noted that the committee did not change the use of exams much – and exams remain a central feature of assessment in many courses to this day. However, it did result in increased experimentation with new grading schemes in various departments. For example, an introductory psychology syllabus from 1975 (from Nancy Gibbons' files)[7] indicated that final grades were determined by number of completed quizzes/tests rather than a percentage-based system, consistent with the mastery-based approach. Waite (1998b) also described the department of History's attempt to create an "attendance-only" class with no final exam from 1972-1975. Like many such attempts during this period, both experiments were abandoned and replaced with traditional grading methods shortly thereafter; however, it does show that the appetite for grading change was in the air.

The biggest and most enduring change in grading at Dalhousie during this time was the transition to the use of letter grades. This was not a smooth, uniform transition. According to student accounts in the Dalhousie Gazette (Roifhe, 1971), percentage grades were officially abolished in 1971 and replaced with letter grades. The registrar held the position that there was no percentage grade equivalent. However, it was clear to students that many departments and individual professors were continuing to use percentage grading schemes and the conversion schemes used varied widely across departments and professors. Students were unimpressed with letter grades at first:

> "What does this change mean? Almost absolutely nothing. Go to the registrar's office, smile, and ask them what a "B" is worth. "Is it worth an 80, a 70, or two queens, a pawn and a rook?" "A 'B' isn't worth anything," they will reply. "A 'B' is a 'B' is a 'B'. An 'A' is an 'A', a 'C' is a 'C' and a 'D' is a 'D', and an aardvark is an eater of ants. There are no equivalents. Advancing to graduate studies? Hopping into law or medicine? Transferring to another university? What will your marks mean to them without an equivalent?" (Roifhe, 1971, pg. 3).

Clearly, students were most concerned about the external communication value of their grade, which could only exist if the various departments at Dalhousie could agree. In October 1971, Marking Grades Committee reported to Senate that "The possibility of establishing a single grading system for the whole University does not exist" (Dalhousie Senate, 1971, pg 2).

Even though letter grades were adopted in 1970-71 following Senate discussions, the 1972-73 calendar was the first-time letter grades officially appear in the calendar with the following divisions: A+, A, A-, B+, B, B-, C, D, F/M, and F. There was no longer any conversion to divisions, percentages or a 4pt scale and faculty members were required to report the method of evaluation to the Registrar. In March 1971, Senate was attempting to wrangle all the diverse grading schemes across faculties, which are summarized in Table 3. Notably, Medicine and Dentistry did not use letter grades at all. This lack of standardization was even more pronounced than table suggests, as individual departments within the Faculty of Arts and Science could themselves have their own informal percentage conversion schemes. For instance, introductory psychology course syllabi from the Department of Psychology (Nancy Gibbons' files)[7] show that Psychology was using a standardized percentage conversion scheme in 1977 that was identical to the Faculty of Science scheme that was used in the 1990s onwards, after the Faculty of Science split from the Faculty of Arts in 1987 (see Table 4 in the next section).

Some numerical system was necessary at the registrar's office to efficiently table and summarize overall performance in a degree program for students, so Senate initially proposed (and carried) a motion that the registrar convert letter grades to specific percentages for record-keeping purposes (e.g., A+ = 97%,

7. A trove of files exists in the administrator's office in the Department of Psychology and Neuroscience at Dalhousie. These were meticulously filed by our former administrator, Nancy Gibbons. Within are various course syllabi, timetables, university calendars, and psychology handbooks saved from her time in the department with materials as far back as the early 1970s.

A = 90%; Senate Minutes April 12, 1971). This was quickly abandoned in favor of a simpler 0-8 point scheme (Dalhousie Senate, October 18, 1971), which was in turn further simplified into a 0-3pt scheme by 1973 – essentially reverting to the old 4pt system from the 1960s that was the prototype for GPA. In the 1973-74 calendar, the 4pt system was re-introduced as "merit points" (A-range = 3pts, B-range = 2pts, C = 1pt, and D = 0pts); the role of these points changed from year to year, but broadly, they were used in a similar fashion to GPA today. Finally, in the 1977-78 university calendar, the C- and C+ grades were added to the letter grade scheme to match the A-range and B-range grades. By this point, the system began to stabilize and the slow process of grading standardization continued.

Table 3. Grade Conversion Schemes in Use at Dalhousie March 1971

Arts and Science*	Health Professions	Law	Medicine	Dentistry	Graduate Studies**
A+	A+: 90-100% (Outstanding)	A+: 80-100%	Distinction: 80-100%	Distinction: 80-100%	
A	A: 80-89% (Superior)	A: 77-79%			A
A-		A-: 74-76%			
B+		B+: 71-73%			
B	B: 70-79% (Very Good)	B: 68-70%		Second Class: 65-79%	B
B-		B-: 65-67%			
C	C: 60-69% (Good, Average)	C: 60-64%			C
D	D: 50-59% (Passable, Below Average)	D: 55-59% E: 50-54%	Pass: 55-79%	Pass 50-64%	D

*Letter grades in the Faculty of Arts and Science were described as "Not related to percentages and without verbal definition."

** Percentage grades were used in graduate classes with 65% as a passing grade. Letter grades were used for theses, with no percentage grade equivalent used.

1980s – 2000s: Standardization of the Grade Point Average System

This heterogeneous truce in grading (i.e., numerous departmental level differences in percentage conversion schemes) held for the next 30 years or so. Officially, there was no percentage conversion scheme to letter grades in use, but unofficially, many departments created standard rules for grading within their own departments. Nonetheless, slow progress towards institutional-wide standardization of grading continued.

By 1987, the Faculty of Arts and Science split into two separate departments (Dalhousie Libraries, n.d.). The Faculty of Science developed its own standardized percentage conversion scheme for letter grades while various departments in the Faculty of Arts and Social Science remained heterogeneous. The Dentistry department eventually converted from the British system to letter grade systems in line with all other departments. Faculty of Graduate Studies moved to a letter grade system for classes with minimum of B- grade and theses became Pass/Fail. In 1997, Dalhousie merged with the Technical University of Nova Scotia (Dalhousie University, n.d.), creating faculties of engineering, computer science, and architecture and planning – each with their own idiosyncratic methods of percentage to letter conversions. A sample of grading schemes in use during this period are in Tables 4 and 5 which is adapted from a document circulated by the Senate Learning and Teaching Committee (March 2012). Though there is a lot of heterogeneity, one thing that is remarkably consistent since the 1940s is that an A-range grade is 80% or higher across all departments except for Russian, Dentistry, and Nursing.

In addition to grades in individual classes, most faculties also had systems in place to aggregate grades across entire degree programs. In the 1980-1991 university calendars, departments had heterogenous systems in place. Arts, Science, Health Professions, and Management used the 4pt merit point system.

Dentistry and Dental Hygiene used a 4.0 GPA system. Law used no aggregate grading system and did not want one (Committee on Academic Administration, 1990).

Starting in the 1980s-1990s, there were major government cuts to university funding nation-wide, with the cuts becoming more severe in the 90s (Jones, 2014; Usher, 2021). Because of the nature of the funding formulas, cuts in Nova Scotia were especially deep. Beyond tuition increases, university administrators knew that obtaining external research grants, Canada Research Chairs, and scholarship funding was one of the few other ways for a university to balance budgets, so there was extra pressure to be competitive in these pools. With this context in mind, there was an important external reason that required a standardized grading scheme: By 1989, external funding agencies, notably the Natural Sciences and Engineering Research Council of Canada (NSERC) now required that transcripts clearly indicate a student's aggregate standing over the last two years of schooling – with a grade point average system preferred (Leffek, 1989). Moreover, it was argued that a 4.3 GPA was preferrable to a 4.0 scale, because it differentiated the A+ students from the A students (formerly, both an A and A+ grade would get a 4.0 GPA). This move was following similar decision at Acadia University and University of New Brunswick and was thought to give students a competitive advantage to win scholarships (Dalhousie Senate Minutes, March 1990). The letter grade to GPA conversion scales were standardized and linked to the letter grades across all faculties. This would lead to situations such that a grade of 70% would be a B (GPA 3.0) in the Faculty of Science but would count as a B- (GPA 2.7) in Dentistry, but at the time, this was unavoidable. The change eventually passed despite a majority dissent at the March 1990 meeting, with four faculties desiring a 4.0 scale (Arts and Social Sciences, Health Professions, Dentistry, Management), three faculties in favor of a 4.3 scale (Graduate Studies, Science, and Education) and two faculties opposed to both scales (Law, Medicine).

One other small change was also incorporated to how grades were reported on transcripts: median grades in each class were added alongside a student's grades in their transcripts. This was presumably to provide context to the variability in grading practices across instructors (Dalhousie Senate Minutes, January 1990), and because of extensive discussions about grade inflation happening around the same time (Dalhousie Senate Minutes, December 1990).

In sum, this period involved gradual towards increased standardization across the university, including (a) all departments aligning with the letter grade system with heterogeneous percentage conversion schemes; (b) adoption of the 4.3 GPA system with a standardized letter-to-GPA conversion scheme; (c) and the addition of median grades to transcripts. The increased standardization was likely related to increased financial pressures at this time – standardization was an oft-employed tool to deal with ever-increasing class sizes with no additional resources.

Table 4. Heterogeneity in Percentage Conversion Schemes as of 2012 (Part 1)

Letter	GPA	Science	Multiple*	Architecture	Commerce	Engineering	French	IDS
A+	4.3	90-100	90-100	90-100	90-100	90-100	90-100	90-100
A	4	85-59	85-89	85-89	85-89	85-89	85-89	85-89
A-	3.7	80-84	80-84	80-84	80-84	80-84	80-84	80-84
B+	3.3	75-79	77-79	77-79	77-79	77-79	75-79	77-79
B	3	70-74	73-76	73-76	73-76	73-76	70-74	73-76
B-	2.7	65-69	70-72	70-72	70-72	70-72	65-69	70-72
C+	2.3	62-64	65-69	67-69	65-69	65-69	62-64	67-69
C	2	58-61	60-64	63-66	60-64	60-64	58-61	63-66
C-	1.7	55-57	55-59	60-62	55-59	55-59	55-57	58-62
D	1	50-54	50-54	40-59	50-54	50-54	50-54	50-57
F/M					45-49	40-49		
F	0	<50	<50	<40	<50	<40	<50	<50

*Scheme used by Management, Health and Human Performance, Social Work, Music and Sociology Departments.

Table 5. Heterogeneity in Percentage Conversion Schemes as of 2012 (Part 2)

Letter	GPA	History	Philosophy	Russian	Dentistry	Health Administration	Nursing	Gender Studies
A+	4.3	90-100	90-100	95-100	95-100	95-100	95-100	95-100
A	4	85-89	85-89	90-94	90-94	85-94.9	90-94	85-90
A-	3.7	80-84	80-84		85-89	80-84.9	85-89	80-84
B+	3.3	77-79	75-79	85-89	80-84	75-79.9	80-84	77-79
B	3	73-76	69-74	80-84	75-79	70-74.9	75-79	73-76
B-	2.7	70-72	65-69		70-74	65-69.9	70-74	70-72
C+	2.3	67-69	61-64	75-79		60-64.9	65-69	67-69
C	2	61-66	57-60	70-74	65-69	55-59.9	60-64	61-66
C-	1.7	55-60	53-56			50-54.9		55-60
D	1	50-54	50-52	60-69				50-54
F/M	0							
F	0	<50	<50	<60	<65	<50	<60	<50

Note. Though not listed here, Pharmacy had three different grading schemes that varied depending on the class. Computer Science was described as having "No standard scheme in use across faculty."

1980s – 2000s: Standardization of the Grade Point Average System

Students had long been expressing frustration in the lack of consistency in the percentage conversion scales used at Dalhousie across departments and professors. For instance, in 2008 one student wrote in the Dalhousie Gazette:

> "I'm not pleased that there is not a set-in-stone grading system being rigidly followed by an entire faculty […] I ask for some control and conformity in the grading scheme employed by the markers and professors at Dal. It's the best way to make an easily misrepresentative marking system a little fairer" (Conter, 2008, pg. 8).

Though administrators gave up in defeat in the 1970s when trying to standardize percentage-to-letter conversion schemes across departments, times had changed by the 2010s. Following the 2008 recession, federal funding decreased again (Jones, 2014; Usher, 2021); however, this time universities tended to balance budgets by increasing tuition and international student fees. This trend towards increased reliance on tuition for income was especially pronounced in Nova Scotia, which has the highest tuition rates in the country (Usher, 2021). Thus, the university moved closer to a "consumer" model of education, so it makes sense that a driving force for standardization was student complaints. By 2010, enrollment had increased to 16,811 at Dalhousie (Crosby, 2010), which is ~2.5 times more than enrollment in 1970 (Waite, 1998b). Letter grades were now in use by virtually all departments and percentage conversion schemes were already standard within many departments (e.g., the whole of the Faculty of Science already used one unified scheme). In May 2012, the Senate Learning and Teaching Committee outlined various problems caused by the lack of standardization and made the case for university-wide standardization of undergraduate grading. One problem was that renewable scholarships required a 3.7 GPA, which may be easier or harder to achieve depending on the home department of those classes. Cross-listed classes or faculty teaching in other departments were especially challenging because it was not clear to students (or faculty) which grade scale should be used. According to Senate notes, undergraduate students "…also expressed concern about how their department's grade conversions affect their consideration for admission into graduate programs and eligibility for … NSERC and other external awards" (Senate Learning and Teaching Committee, May 2012). Though the nature of these concerns were not entirely clear, presumably students in departments with higher standards for As or Bs were concerned that it put them at a competitive disadvantage.

As a result of these concerns, the committee proposed that all units in the university be mandated to use the same percentage conversion scheme. Six different options were presented to Senate based on two guiding principles: (a) the responsibility for grades lies with the individual instructors and (b) grades must be able to communicate information to external parties in isolation without any additional context.

It was deemed that letter grades should represent standardized qualitative descriptions for each letter grade as noted in the calendar (Dalhousie University, "Grade Scales and Definitions," n.d.). Moreover, ranges of percentages assigned to each letter grade should not be too narrow; and the percentage-to-letter conversion must be consistent within and across classes. The initial recommended grading scheme is outlined in Table 6, and it recommends an equal spread of 4 points for all B and C-range grades.

After a great deal of discussion over the following year, Dalhousie eventually approved their "Common Grade Scale" in the January 2014 Senate Meeting (Table 6). This approved scheme appears to be chosen because it represented the same scale as used by University of Toronto and Queens University; this was likely seen as maximizing the transferability of grades among the U15 in Canada. This grading scheme was implemented starting in the Fall 2014-15 term and continues to be used at present day.

Table 6. Dalhousie's Common Grade Scale

Letter	GPA	Descriptor	Proposed May 2012	Approved January 2014
A+	4.3	Excellent	90-100 (10)	90-100 (10)
A	4	Excellent	85-89.9 (5)	85-89 (5)
A-	3.7	Excellent	80-84.9 (5)	80-84 (5)
B+	3.3	Good	76-79.9 (4)	77-79 (3)
B	3	Good	72-75.9 (4)	73-76 (4)
B-	2.7	Good	68-71.9 (4)	70-72 (3)
C+	2.3	Satisfactory	64-67.9 (4)	65-69 (5)
C	2	Satisfactory	60-63.9 (4)	60-64 (5)
C-	1.7	Satisfactory	56-59.9 (4)	55-59 (5)
D	1	Marginal Pass	50-55.9 (6)	50-54 (5)
F	0	Inadequate	<50 (50)	<50

Note. Numbers in parentheses represent the spread of percentage values within a given letter grade.

Some Closing Thoughts on Grading at Dalhousie

The standardization of grades around the world has transformed them into a fungible token – they are a form of currency that can be exchanged at other universities in the form of transfer credits, to gain access to graduate school education, and to win scholarships and awards that help pay for more education. As enrollments increased, standardization became the solution to keep the administration of overburdened educational systems functional. It is difficult to imagine how admissions and scholarship organizations could cope with ever-increasing applicants without standardized grading systems to facilitate comparisons across institutions, short of hiring far more personnel than most budgets could accommodate.

With ever-increasing class sizes, teachers have frequently resorted to assessments with standardized rubrics or automated grading (e.g., multiple choice) to survive each teaching term. Grading needs to be rapid and ultimately reduced into a single value; thus, summing "questions correct" using a simple 0-100% scheme has been informally used by professors for at least the past hundred years, even when official university grading schemes did not use percentages.

Our review of the history of grading were surprising to us in two important ways. First, aside from a brief upset in the 70s, most decisions about university grading schemes had very little to do with actual pedagogy. Instead, they are primarily aimed at making sure Dalhousie students have the best chance at winning scholarships and entering graduate schools at other institutions. Grading policy is primarily driven by the external communication value of grades, rather than the internal communication value to students. The validity and pedagogical value of standardized grades are questionable, but the administrative value is clearly apparent.

Second, our background in statistics and psychological testing led us to believe that percentage conversion schemes were based on some manner of probability distribution, such as the "normal" bell-shaped distribution that was at the center of so much discourse in American grading policy and research (e.g., Pratt & Wise, 1937; Bloom, 1968). That is, we had assumed that there would be some attempt to design a grading scheme that reflected the desired number of As, Bs, Cs university-wide based on an assumption of a normal distribution. Instead, early decisions reflected a compromise position between British and American systems, and the 80% cutoff for A-range grades remained unchanged for the past 70 years likely due to institutional inertia. When the Dalhousie Common Grading Scale was proposed, the cutoffs were essentially based on straightforward arithmetic that assigned an equal percentage cutoff to each letter grade, except for A-range grades which were kept at the unchangeable 80% cutoff. The minor tweaks to this were again for external reasons: To be consistent with Queen's University and University of Toronto.

When we started this project, we thought it would be quick and straightforward; however, history is rarely so accommodating. Nonetheless, we hope that some people at Dalhousie (and beyond) find the results of this historical research interesting context for why grading practices exist in their present form.

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Appendix A: An Aside about Present-Day Grading in British and American Systems

Though it may not be apparent to North American readers, the system in use by Dalhousie prior to the letter grading system was essentially the system that was in use within British universities, originating with Oxford and Cambridge – though Dalhousie's founding was originally inspired by the systems in place at University of Edinburgh (Waite, 1998a). Conference proceedings collated by Winter (1993) reveal some of this history of this system:

> "Originally, the primary aim of the class system was to distinguish the highest fliers – the Firsts – from those whose performance was judged to be merely satisfactory. Those whose performance fell between these two categories were awarded Seconds. The second-Class degree covered a multitude of sins from those who had just missed a First to those whose performance was very little better than merely satisfactory. In time, therefore, the Second Class was divided to reflect these very substantial differences" (pg. 82).

Today, British universities typically divide degrees into First, Upper Seconds, Lower Seconds, Thirds and Passes without Honours. Notably, the percentage conversions for grades are much lower than most North American universities, as noted in Table S1 which is adapted from information from the Fulbright Commission (n.d.). What this makes clear is that the percentage conversion schemes at Dalhousie prior to letter grades were more-or-less in line with the British system (which had not yet subdivided second class students), with an added category of "High First Class." By the late 1940s, Dalhousie started referring to these as "divisions" but the principle was the same. The system in use within the United States today is typically a letter-based system with a percentage conversion very similar to universities in Canada.

Though institutions vary in their conversion schemes – just like in Canada – on average, American universities tend to use a conversion scheme with ~90% or higher as indicative as an A-range grade. The tendency for American schools to use a higher percentage cutoff for A-range grades and failures tracks back to the first recorded usage of letter grades at Mount Holyoke in 1897, where they used: A (95+), B (85-94), C (76-84), D (75) and E (0-74), see Durm, (1993). See Table S2 for a breakdown of typical modern American percentage equivalents. Ultimately, grading in Canada has (mostly) converted to something much closer to the American letter grading system, with some disagreements about the percentage grade equivalents.

Table S1. Modern-Day Grade Conversions in British Universities

Grade Divisions	Percentage Grade Equivalent	GPA Equivalent
First Class honours	70+	4
Upper-second class honours	60-69	3.3 – 3.7
Lower-second class honours	50-59	2.7 – 3.0
Third Class honours	40-49	2 – 2.3
Ordinary / Unclassified	35-39	1
Fail	< 35	0

Note: Adapted from https://www.fulbright.org.uk/going-to-the-usa/pre-departure/academics

Table S2. Common Modern-Day Grade Conversions in American Universities

Grade Divisions	Percentage Grade Equivalent	GPA Equivalent
A-range	90+	3.67-4.0
B-range	80-89	2.67-3.67
C-range	70-79	1.67-2.67
D	60-69	0.67-1.67
Fail	0-59	0-0.67

Note: Adapted from https://en.wikipedia.org/wiki/Grading_systems_by_country#United_States

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Verified with reservations

The content is scientifically sound, but has shortcomings that could be improved by further studies and/or minor revisions.

Referees: Nidia Bañuelos, University of Wisconsin-Madison.
Wade H. Morris, Georgia State University.

PRVM016 16/05/2022

Peer Review: A Short History of Grading Practices at Dalhousie University (1901-2021)

Verified with reservations: The content is scientifically sound but has shortcomings that could be improved by further studies and/or minor revisions.

Peer review report

Reviewer: Nidia Bañuelos Institution: University of Wisconsin-Madison
email: nbanuelos@wisc.edu

General comments

Questions of how and why grading practices change over time, how students, faculty, and administrators respond to grades, and the external pressures on grading practices (e.g. war, graduate school requirements) are inherently interesting! The authors have clearly done a careful job of tracking these – often minute, and likely, difficult to follow – changes at Dalhousie University. The manuscript is well-written and relatively easy to follow.

My biggest concern, reflected in the more detailed comments below, is that the authors could do a better job of explaining to the reader why these changes are interesting, important, and relevant to historians of higher education more broadly – even those who aren't at Dalhousie. They do some of this at the very end of the paper and, indeed, this summing up of their findings and explanation of their relevance was my favorite part of the manuscript. I would suggest reorganizing the paper so that these bigger takeaways appear in the introduction and so that the reader is reminded of them at each major section break of the paper. For example, when the authors present a quote from a student who is concerned that grades have little to do with learning outcomes, they might remind us that one of their main arguments is that "decisions about university grading schemes had very little to do with actual pedagogy" (p. 15).

As it is written, the manuscript sometimes reads like a list of facts about grading changes. But, I think a reframing that focuses on the general importance of these changes could make the entire piece more engaging. More on this below…

Section 1 – Serious concerns

- *Do you have any serious concerns about the manuscript such as fraud, plagiarism, unethical or unsafe practices?* **No**

- *Have authors' provided the necessary ethics approval (from authors' institution or an ethics committee)?* **not applicable**

Section 2 – Language quality

- *How would you rate the English language quality?* **High quality**

Section 3 – validity and reproducibility

- Does the manuscript contain any objective errors, fundamental flaws, or is key information missing?

While I don't notice any "objective errors", I do think the paper has a major flaw (i.e. little explanation of the broader significance of this case study) and could benefit from additional information about the institutional context, the archival material, and external influences on grading trends. (Please see below.)

Section 4 – Suggestions

- *Based on your answer in section 3 how could the author improve the study?*

I. Most importantly, I would like to see an introduction that explains the authors' general arguments about grading changes – including the trajectory of these changes at Dalhousie and why this arc contributes to our knowledge of the history of higher education more broadly. Then, the authors might continually remind us of the arc they present at the outset of their paper – especially when they are highlighting a piece of evidence that illustrates their central argument. To me, the quotes from students and faculty responding to grading changes are among the most interesting parts of the paper and placing these in additional context should make them shine even more brightly!

II. I'd like to read a little more about Dalhousie itself – why it is either a remarkable or unremarkable place to study changes in grading policies. Is it representative of most Canadian universities and thus, a good example of how grading changes work in this national context? Is it unlike any other institution of higher education and thus, tells us something important about grades that we could not learn from other case studies? I don't think this kind of description needs to be particularly long, but it should be a little more involved than the brief sentences the authors currently include (p.3, paragraph 1) and should explain the choice of this case.

III. I'd also like to know more about the archival materials the authors used. The authors mention that they drew from "Senate minutes, university calendars, and student newspapers" (p. 3), but what kinds of conversations about grades did these materials include? At various points, the authors engage in "speculation" (e.g. p.4) about why a particular change occurred. This is just fine and, in fact, it's good of the authors to remind us that they are not really sure

why some of these shifts happened. But, they might go one step further and tell us why they have to speculate. Were explicit discussions of grading changes – including in inter- and intradepartmental letters and memo, reports, and other documents – not available in these archives? Why are these important discussions absent from the historical record?

IV. At various points, the authors make references to the outside world – for example, WWII (p. 5), the Veteran's Rehabilitation Act (pp. 6-7), and British versus American grading schemas (p. 6). But, these references are brief and seem almost off-handed. I know space is limited, but putting these grading changes in their broader context might help make the case for why this study is interesting and important. Are the changes in the 1940s, for example, related to the ascendance of one national graduate education model over another (e.g. American versus British)? Are there any data on how many Canadian undergraduates enrolled in British versus American graduate programs over time? If so, I would share any information you might have on these broader trends.

Similarly, the authors make brief mention of the internal reaction to grade changes – quoting students or faculty minutes. But, it would be wonderful (space permitting) to have even more information the internal impact of these changes. Did they change faculty instructional practices? Did they seem to have any effect on students' orientation to their learning? Did standardization reflect an increasing interdependence of departments, or did it contribute to their lessening autonomy? If the archival record doesn't permit us to know these things, then this might be a limitation the authors note at the end of the manuscript. I noticed that the authors reference a secondary source on Dalhousie student experiences repeatedly (Waite, 1998). Even a little more from this text or another secondary source like it could help the reader better understand the impact of grade changes.

- *Do you have any other suggestions, feedback, or comments for the Author?*

This is a very nitpicky concern that doesn't fit well elsewhere, so please take it with a grain of salt. I was surprised at the length of the reference list – it seemed quite short for a historical piece! I wonder, again, if more description of the archival material - including why you looked at these sources, in particular, and what was missing from the record – would help explain this and further convince the reader that you have all your bases covered.

Section 5 – Decision

Requires revisions: The manuscript contains objective errors or fundamental flaws that must be addressed and/or major revisions are suggested.

Peer review report

Reviewer: Wade H. Morris

Institution: Georgia State University

email: morriswh@gmail.com

General comments

The authors dove headfirst into Dalhousie's archives, unpacking the subtle shifts in grading policy. Their work seems to be comparable to archaeologists, digging deep beneath mountains of primary sources to find nuggets of clues into Dalhousie's grading evolution. I particularly liked when the authors were able to link these changes to student voices, as seen in moments when they referenced student publications.

Ultimately, I kept coming back to one main comment that I wrote in the margins: "So what?" I would humbly suggest that the authors reflect on why this history matters to them. Granted, they do this in the conclusion, where they touch on Schneider & Hutt's argument that grades evolved to increasingly be a form of external communication with audiences beyond school communities. Sure. But I want more. I wanted to see a new insight that this microhistory of Dalhousie significant to the history of Canada or the history of education more generally.

If the authors are so inclined, there might be several approaches to transform this manuscript. I would suggest the following. First, instead of tracing the entire history of grading at the institution, choose one moment of change that you think is the most important. Perhaps in the 1920s and the lack of transparency in grading, or the post-war shift toward American grading. Second, show me – don't tell me – what Dalhousie was like at this moment. Paint a picture of the institution with details about student demographics, curriculum, educational goals, the broader town, etc. Make the community come alive. Show me what makes Dalhousie unique from other institutions of higher ed. Once you establish that picture, perhaps you could link the change in grading practices to subtle changes at the university community, thereby establishing a before and after snapshot.

This will require considerable amounts of work, and the skills of a historian. You will have to find primary and secondary sources that go far beyond what you've relied on thus far.

In the end, I found myself wanting the authors to humanize this manuscript, meaning I wanted them to show me that changes in grading practices have tangible effects on real-life human beings. A humanization of their research would mean going narrower and deeper; or, in other words, eliminating much of what they have documented.

However, if that is too tall of an order, I would ask that the authors clarify for themselves who this manuscript is for. Is this a chronicling of facts for an internal audience at Dalhousie's faculty, alumni, and students? Fine. But my guess is that even members of the Dalhousie community want to read something relatable.

Section 1 – Serious concerns

- *Do you have any serious concerns about the manuscript such as fraud, plagiarism, unethical or unsafe practices?* **No**

- *Have authors' provided the necessary ethics approval (from authors' institution or an ethics committee)?* **not applicable**

Section 2 – Language quality

- *How would you rate the English language quality?* There are a few nagging stylistic quirks. Most obvious to me, the authors switch into and out of present tense. Stick with past tense. Also, I would suggest that they remove the first person.

Section 3 – validity and reproducibility

- Does the manuscript contain any objective errors, fundamental flaws, or is key information missing?

Not that I am aware.

Section 4 – Decision

Requires revisions: The manuscript contains objective errors or fundamental flaws that must be addressed and/or major revisions are suggested.

I am suggesting revisions, although not because of objective errors. History is more of an art, in my opinion. With that in mind, I would suggest that the authors paint a more vivid picture (metaphorically) of Dalhousie, showing me how changes one moment of change in grading practices impacted the lives of human beings.

Discussion, revision and decision

Decision

Verified with reservations: The content is scientifically sound, but has shortcomings that could be improved by further studies and/or minor revisions.

Dr. Bañuelos: Verified manuscript

Dr. Morris: Verified with reservations

Revision

Response to Reviewer 1 (Dr. Bañuelos)

1. Most importantly, I would like to see an introduction that explains the authors' general arguments about grading changes – including the trajectory of these changes at Dalhousie and why this arc contributes to our knowledge of the history of higher education more broadly. Then, the authors might continually remind us of the arc they present at the outset of their paper – especially when they are highlighting a piece of evidence that illustrates their central argument. To me, the quotes from students and faculty responding to grading changes are among the most interesting parts of the paper and placing these in additional context should make them shine even more brightly!

Our Response: Thank you so much for your thoughtful review. We have added a larger new introduction section of the paper (paragraphs 1-5 in the latest draft are new) that outlines the general importance of the topic, the Canadian context, details on Dalhousie University, and our overall thesis statement (i.e., most decisions were to improve the external communication value of grades). Moreover, we have added three new student quotes form the Dalhousie Gazette to build a stronger picture for student reactions, and to build a better case for our overall thesis statement (i.e., that changes in grading were often to increase the external communication value of grades). Moreover, throughout we have added some details on the overall funding trajectory for institutions in Canada that created some pressure to standardize grading. We think that these changes have improved the manuscript.

1. I'd like to read a little more about Dalhousie itself – why it is either a remarkable or unremarkable place to study changes in grading policies. Is it representative of most Canadian universities and thus, a good example of how grading changes work in this national context? Is it unlike any other institution of higher education and thus, tells us something important about grades that we could not learn from other case studies? I don't think this kind of description needs to be particularly long, but it should be a little more involved than the brief sentences the authors currently include (p.3, paragraph 1) and should explain the choice of this case.

Our Response: This comment revealed that two additional pieces of context were needed for the introduction: (a) some national context for higher education policy in Canada and (b) some

extended description of Dalhousie University when compared to other universities in Canada. To this end, two new paragraphs have been added to the paper (paragraphs 2 & 3 in the current draft).
Notably, Jones (2014) notes that "Canada may have the most decentralized approach to higher education than any other developed country on the planet" (pg 20). With this in mind, any historical review of education policy is by necessity specific to province and institution – that is, the information can be placed in its context, but resists wide generalization to the country as a whole. In the newest draft, we tried to describe the national, provincial, and institutional context in some more detail in paragraphs 2 & 3.

1. I'd also like to know more about the archival materials the authors used. The authors mention that they drew from "Senate minutes, university calendars, and student newspapers" (p. 3), but what kinds of conversations about grades did these materials include? At various points, the authors engage in "speculation" (e.g. p.4) about why a particular change occurred. This is just fine and, in fact, it's good of the authors to remind us that they are not really sure why some of these shifts happened. But, they might go one step further and tell us why they have to speculate. Were explicit discussions of grading changes – including in inter- and intradepartmental letters and memo, reports, and other documents – not available in these archives? Why are these important discussions absent from the historical record?

Our Response: We have added a new paragraph (paragraph 4) to the paper discussing the sources in some more detail. It is true that the verbatim discussions are frequently absent from the record, especially earlier in history – or if they exist, we have not found them! Instead, we frequently are reviewing meeting minutes or committee reports, which are summaries of discussions. As we now note in the paper, "Thus, the sources used showed what policy changes were implemented, when they were implemented, and a general sense of whether there was opposition to changes; however, there were notable gaps in faculty and student reactions to grade policy changes, as these reactions were frequently not written down and archived."
This gap was most apparent in the Senate minutes around the 1940s, where I (the first author) could not find any direct discussions of why changes were implemented. Under the 1937-1947 heading, we more clearly indicate that the rationale for the changes was absent from the Senate minutes during this period. I add some further speculation on why these records might be absent, based on summaries from Waite (1998b); specifically, the university president of the time often made unilateral decisions, circumventing Senate, which might account for why the changes are absent from the records.
This will hopefully make the limitations of what can be learned from this approach more apparent.

1. At various points, the authors make references to the outside world – for example, WWII (p. 5), the Veteran's Rehabilitation Act (pp. 6-7), and British versus American grading schemas (p. 6). But, these references are brief and seem almost off-handed. I know space is limited, but putting these grading changes in their broader context might help make the case for why this study is interesting and important. Are the changes in the 1940s, for example, related to the ascendance of one national graduate education model over another (e.g. American versus British)? Are there any data on how many Canadian undergraduates enrolled in British versus American graduate programs over time? If so, I would share any information you might have on these broader trends.

Our Response: To our knowledge, there isn't any comparable report to what we've written here documenting the transition from British "divisions" to American "letter grades" in

Canadian Universities, making our report novel in this regard. It might well be that a similar historical arc exists in many of the 223 public and private universities in Canada, but we don't believe such data exists in any readily accessible way – excepting perhaps undergoing a similar deep dive into historical documents at each respective institution! So, we do not have the answer to your question: "Are there any data on how many Canadian undergraduates enrolled in British versus American graduate programs over time?" However, we did add one reference which provided a snapshot point of comparison in 1960, noting in the paper "Baldwin (1960) notes that the criteria for "High First Class" grades in the humanities was around 75-80% at Universities of Toronto, Alberta, and British Columbia in 1960, suggesting that Dalhousie's system was similar to other research-intensive universities around this time." That said, there are a few major national events related to the funding of universities in Canada that we have elaborated on in the text to address the spirit of your recommendation for describing the national context:

a) In the "Late 1940s" section of the paper, we added: "Though Dalhousie had an unusually high proportion of veterans enrolled relative to other maritime universities during this period (Turner, 2011), the Veteran's Rehabilitation Act was a turning point for large increases in enrollment and government funding Canada-wide, at least until the economic recession of the 1970s (Jones, 2014)."

b) In the 1990s, there were major government cuts to funding, creating challenging financial times for the university. We discuss the funding pressures that likely contributed to standardization of grading during this time by saying the following in the 1980s-2000s section: "Starting in in the 1980s-1990s there were major government cuts to university funding nation-wide, with the cuts becoming more severe in the 1990s (Jones, 2014; Higher Education Strategy Associates, 2021). Because of the nature of the funding formulas, cuts in Nova Scotia were especially deep. Beyond tuition increases, university administrators knew that obtaining external research grants, Canada Research Chairs, and scholarship funding was one of the few other ways for a university to balance budgets, so there was extra pressure to be competitive in these pools. […] The increased standardization was likely related to increased financial pressures at this time – standardization is an oft-employed tool to deal with ever-increasing class sizes with no additional resources."

c) In the 2010s section of the paper, we added context to how universities in country-wide have become increasingly dependent on tuition fees for funding: "Following the 2008 recession, federal funding decreased again (Jones, 2014; Higher Education Strategy Associates, 2021); however, this time universities tended to balance budgets by increasing tuition and international student fees. This trend towards increased reliance on tuition for income is especially pronounced in Nova Scotia, which has the highest tuition rates in the country (Higher Education Strategy Associates, 2021). Thus, the university moved closer to a "consumer" model of education, so it makes sense that a driving force for standardization was student complaints."

1. This is a very nitpicky concern that doesn't fit well elsewhere, so please take it with a grain of salt. I was surprised at the length of the reference list – it seemed quite short for a historical piece! I wonder, again, if more description of the archival material - including why you looked at these sources, in particular, and what was missing from the record – would help explain this and further convince the reader that you have all your bases covered.

Our Response: In the introduction section, paragraph 4, we describe our sources in more detail including what is likely missing from the record and why we used them. Regarding the length of the reference list, we did add ~12 new references to the list in the course of making various revisions, which partially addresses your concern. Beyond this though, it's worth noting that some of the sources more extensive than they seem, even though they don't take up much

space in the reference list (e.g., there is one entry for course calendars, but this covers ~100 documents reviewed!). Moreover, there were many dead-ends in the archives that are not cited (e.g., reviewing 10 years of Senate minutes in the 1940s produced little of relevance), so the reference list is curated to only those sources where relevant materials were found.

Reviewer response to revisions

The new introduction to the piece addresses many of my previous questions about the authors' general arguments, the Dalhousie context, and the source material. Thank you for addressing these! Reading this version, it is much clearer that the key argument is that standardized, centralized grading practices were "to improve the external communication value of the grades, rather than for pedagogical reasons" (p. 6). I also really enjoyed the added quotes from students in the Dalhousie Gazette.

The authors' response to Reviewer 2 really gave me a better sense of why they wrote this piece and also helped me to more clearly put my finger on what was troubling me in the first round. It still reads a little like a report for an internal audience – which is just fine and, in fact, can be extremely useful for historians of the future. But, as Reviewer 2 notes, this means it does not really seem like a piece of historical scholarship. I do worry that shaping it into this form would take an extensive revision and might not be in the spirit of what the authors intended to do.

A different version of this article might start with this idea that grades were standardized for external audiences and in response to financial pressures. It would then develop a richer story behind the sudden importance of these external audiences and the nature (i.e. source, type) of financial pressures Dalhousie was facing. It would highlight the impact such changes had on students and their future careers/graduate experiences. It could then connect these trends to other similar changes for external audiences and the increasing interconnectedness of American, Canadian, and British systems through graduate education. It might even turn to sociological theories of organizational change and adaptation and make an argument for when (historically) similar forms of decoupling were likely to occur in the Canadian higher education system. Finally, it might connect these grading changes to current trends – including accusations of grade inflation and accepted best practices for measuring learning outcomes.

But, it doesn't seem that the authors necessarily want to do this, which I can understand and respect. I think there is enormous value in a piece of scholarship like this existing – both for internal audiences and for future historians. Indeed, imagine if every university had a detailed history of its grading policies like this available somewhere online! Comparing such practices across institutions would certainly tell us a lot about why grading currently looks the way it does.

Decision changed

Verified manuscript: The content is scientifically sound, only minor amendments (if any) are suggested.

Response to Reviewer 2 (Dr. Morris)

The authors dove headfirst into Dalhousie's archives, unpacking the subtle shifts in grading policy. Their work seems to be comparable to archaeologists, digging deep beneath mountains of primary sources to find nuggets of clues into Dalhousie's grading evolution. I particularly

liked when the authors were able to link these changes to student voices, as seen in moments when they referenced student publications.

Ultimately, I kept coming back to one main comment that I wrote in the margins: “So what?” I would humbly suggest that the authors reflect on why this history matters to them. Granted, they do this in the conclusion, where they touch on Schneider & Hutt’s argument that grades evolved to increasingly be a form of external communication with audiences beyond school communities. Sure. But I want more. I wanted to see a new insight that this microhistory of Dalhousie significant to the history of Canada or the history of education more generally.

If the authors are so inclined, there might be several approaches to transform this manuscript. I would suggest the following. First, instead of tracing the entire history of grading at the institution, choose one moment of change that you think is the most important. Perhaps in the 1920s and the lack of transparency in grading, or the post-war shift toward American grading. Second, show me – don’t tell me – what Dalhousie was like at this moment. Paint a picture of the institution with details about student demographics, curriculum, educational goals, the broader town, etc. Make the community come alive. Show me what makes Dalhousie unique from other institutions of higher ed. Once you establish that picture, perhaps you could link the change in grading practices to subtle changes at the university community, thereby establishing a before and after snapshot. This will require considerable amounts of work, and the skills of a historian. You will have to find primary and secondary sources that go far beyond what you’ve relied on thus far.

In the end, I found myself wanting the authors to humanize this manuscript, meaning I wanted them to show me that changes in grading practices have tangible effects on real-life human beings. A humanization of their research would mean going narrower and deeper; or, in other words, eliminating much of what they have documented.

However, if that is too tall of an order, I would ask that the authors clarify for themselves who this manuscript is for. Is this a chronicling of facts for an internal audience at Dalhousie’s faculty, alumni, and students? Fine. But my guess is that even members of the Dalhousie community want to read something relatable.

I am suggesting revisions, although not because of objective errors. History is more of an art, in my opinion. With that in mind, I would suggest that the authors paint a more vivid picture (metaphorically) of Dalhousie, showing me how changes one moment of change in grading practices impacted the lives of human beings.

Our Response: Thank you very much for taking the time to read our paper and provide your thoughts and recommendations. It may be helpful to begin by describing why I (the first author) decided to write this paper. Ultimately, I wrote this paper to satisfy my own personal curiosity and to connect with other people at my own place of employment by exploring our shared history. At present day, Dalhousie has a letter grading scheme with a standardized percentage conversion scheme that all instructors used. I wanted to know why this particular scheme was used, but I quickly realized that nobody at Dalhousie really knew how we ended up grading this way! There was an institutional memory gap, and a puzzle that was irresistible to me. So, I wrote this paper for the most basic of all academic reasons: Pure curiosity. I do very much recognize that the subject matter is very niche, perhaps too niche for a traditional journal outlet. Thus, my publishing plan is to self-publish a manuscript to the Education Resources Information Center (ERIC) database and a preprint server as a way of sharing my work with others who might be interested in what I found. Nonetheless, I believe in the importance and value of peer review, especially since I am writing in a field different than most of my scholarly

work. That is why I chose PeerRef as a place to submit, so that I could undergo rigorous peer review to improve the work while still maintaining the niche subject matter and focus that drives my passion and curiosity for the project. Of course, if you feel the whole endeavor is so flawed that it precludes publication anywhere, then we can consider this a “rejection” and I will not make any further edits through PeerRef.

The core of your critique suggested that I should write a fundamentally different paper on different subject matter. While I don’t necessarily disagree that the kind of paper you describe might have broader appeal, it would no longer answer the core research question I wanted an answer to: How has Dalhousie’s grading changed over time? So, I must decline to rewrite the paper to focus on a single timeframe as recommended. All this said, I did try my best to address the spirit of your various concerns to improve the quality of the manuscript. Below, I will outline the various major changes to the manuscript that we made to improve the manuscript along the lines you described, while maintaining our original vision for the structure and focus of the paper. The specific changes are outline below:

a) Two new paragraphs (now paragraphs 1-2 of the revised manuscript) were added to explain the “so what” part of the question. Specifically, we describe why we think the subject matter might be of interest to others and summarize the general dearth of historical information on grading practices in Canada as a whole.

b) Consistent with recommendations from the other reviewer, we now state a core argument (i.e., that most major grading changes were implemented to improve the external communication value of the grades) earlier in the introduction in paragraph 5 and describe how various pieces of evidence throughout the manuscript tie back to that core theme.

c) In an attempt to “humanize” the manuscript more, we added more student quotes from the Dalhousie Gazette throughout the paper so that readers can get a better sense of how students thought about grading practices at various times throughout history. Specifically, three new quotes were added in the following sections: 1901-1936, late 1940s, 1950s-1970s. We also added this short note about the physical location where grades used to be posted: “Naturally, this physical location was dreaded by students, and was colloquially referred to as “The Morgue” (Anonymous Dalhousie Gazette Author, 1937).”

d) Early in the paper, we describe why we chose Dalhousie and the potential audience of interest: “As employees of Dalhousie, we naturally chose this institution as a case study due to accessibility of records and because it has local, community-level interest. The audience was intended to be members of the Dalhousie community; however, it may also be a useful point of comparison for other institutions, should similar histories be written.”

e) We have described some of the limitations of our sources in paragraph 4, which may explain why the manuscript takes the form it does – it has conformed to the information that is available!

f) We have linked events at Dalhousie to the national context in some more detail, by detailing some national events related to the funding of universities in Canada. See our response to Reviewer 1, #4 above for more details on the specific changes.

g) Consistent with your stylistic recommendations, we have changed various spots throughout the paper from the present tense (e.g., “is”) to the past tense (e.g., “was”), and were careful in our new additions to maintain the past tense, when appropriate. If there are any spots that we missed, let us know the page number / section, and we will make further changes, as necessary.

h) We retained the first person in our writing – this may be discipline-specific, but in Psychology (the first author’s home discipline), first person is acceptable in academic writing. If you feel strongly about this, we can go through the manuscript and remove all instances of the first person, but we would prefer to keep it, if at all possible.

Hopefully this helps address the spirit of your concerns, and I look forward to hearing your thoughts in the second round of reviews.

Decision changed

Verified with reservations: The content is scientifically sound, but has shortcomings that could be improved by further studies and/or minor revisions.