The Sustainability of Institutional Policies Starts with “Know Thyself”

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Abstract: In the present research, faculty at a university in the Middle East were asked to report their attitudes towards learning and grades through the LOGO: F scale. At the selected university, faculty are required to apply a student-centered approach to instruction, which is expected to be driven by active learning of key academic and professional competencies. Although the institutional policies explicitly emphasize active learning, the broader educational system in which the university is embedded puts a premium on grades to assess students’ academic success. The present research examined how faculty might respond to these institutional inconsistencies, which are typical of universities across the globe. Participants were the faculty of a university located in Saudi Arabia, which conforms to a US curriculum and a student-centered instructional model. The evidence collected underscored the faculty’s struggle between emphasizing learning and recognizing the undeniable relevance of grades in the educational marketplace. The usefulness of the evidence collected is discussed from the perspectives of the institution and individual faculty with an eye on sustainable objectives and outcomes.

Keywords: teaching; learning orientation; grade orientation; sustainable higher education

1. Introduction

According to Sterling [1] (p. 50), the principle of sustainability applied to higher education implies “not just another issue to be added to an over-crowded curriculum, but a gateway to a different view of curriculum, of pedagogy, of organizational change, of policy and particularly of ethos”. Yet, grades are treated as a ubiquitous and valuable currency in higher education [2]. Across the globe, higher education institutions rely on course grades to determine admission, thereby using grades to define the academic opportunities given to students. Grades are a required component of most of the classes in which students enroll, and are aggregated to compute a student’s grade point average (GPA), which symbolizes academic standing and defines graduation outcomes. At the start of every course, reminders of the relevance of grades are present in the grading policies highlighted in both the syllabus and the course overview. During the semester, students are given marks for their work, each of which condenses their efforts and work output into a flavorless digit or letter. More broadly, for students whose grades are less than desirable, universities customarily establish remedial classes or initiate dismissal, whereas a variety of rewards are available (e.g., financial aid, permission to take overload, academic honors, scholarships, fellowships, internships, etc.) for those with desirable grades.

Students’ acquisition of knowledge and competencies remains the main function of institutions of higher education along with the lofty goal of developing “graduates with capabilities to improvise, adapt, innovate, and be creative” [3] (p. 245). Oddly, there is no remedial instruction for students unable to find enjoyment in the major they selected, but there is remedial instruction for students with low grades. If faculty fail to submit grades at the end of a course, swift punitive administrative actions are likely to be taken. However, if they fail to engage their students, semester after semester, dormant audiences...
and low-class enrollment may be the only noticeable outcomes. Thus, it is not surprising that some students might conclude that education is a set of recurring tedious experiences of assessment and evaluation [4]. For these students, the accumulation of course credits is the path to graduation, which is the ultimate objective. When grades, rather than learning of course materials and competencies, are the primary motivators of one’s efforts, the appearance of attainment takes the center stage at the expense of real attainment [5]. In its extreme form, this attitude may express academic entitlement [6], which is the wide-ranging expectation of reward (e.g., high grades) in the absence of achievement. It may also lead a student to engage in questionable conduct, such as relying on someone else to complete an assignment or take a test [7]. On the opposite side of the spectrum are students who find the opportunity to acquire knowledge and skills engaging, and experience most academic activities and tasks as opportunities for personal enrichment [5].

It is important to note that all students tend to be socialized into being grade-oriented since early in life [8]. They are assessed and evaluated through grades from the very beginning of their educational journey. As such, they come to view their scholastic progress through the lenses of the grades they have received. Moreover, they come to use grades to communicate their successes or failures not only to themselves but also to their parents or caregivers. Thus, a grade orientation, broadly conceptualized as attention to assessment and evaluation metrics, is an unavoidable aspect of the life of the average student, albeit not necessarily his or her main objective.

Grade orientation and learning orientation in students are not to be considered mutually exclusive dimensions. Research suggests that they generally coexist in learners [9–12], albeit one tends to prevail over the other, depending on one’s enduring priorities and the demands put forth by the particular situation one faces [13]. Of course, if the process of selecting classes in which to enroll is entirely devoted to the identification of “easy graders” and courses with minimal work, then the student can be said to possess a prevailing grade orientation. In contrast, if the class selection process is driven by an interest in the expertise of instructors in the domain to be taught and their teaching styles, then the student can be said to possess a prevailing learning orientation. This student is expected to value reflection and deep understanding and to assume responsibility for learning. It is entirely possible though that a class selection process largely driven by the quest for easy grades becomes a quest for learning if the topic of a class sparks the student’s interest. Alternatively, the habitual quest for interesting classes may turn into one for easy grades if the content of a mandatory course is judged to be of no importance.

Not surprisingly, the dimensions of grade orientation and learning orientation also coexist in faculty. In the extant literature, educators are described as varying on a continuum regarding how much they are concerned with learning or evaluation and with assessment through grading [14]. At one extreme of the continuum, an orientation towards grades glorifies the role of the educator as a judge of students’ attainment measured through grading. Setting the criteria for grading and engaging in the evaluation of students are key functions of educators, albeit among the most challenging, as they are usually performed without prior training. At the other end of the continuum, an orientation towards learning is the offspring of a student-centered pedagogy, whereby students and educators are joined in a partnership that places the responsibility for success on both the student and the educator [15]. It entails the use of early warning signals and developmental feedback to emphasize the acquisition of knowledge and competencies above and beyond mere evaluation [16]. Its goal is to empower students to take control of their learning [17]. In this context, difficulties and mistakes become learning opportunities to be corrected via developmental feedback.

Yet, what happens at the micro-level of individual faculty members and the courses they teach is shaped by the institutional practices of the university that employs them and the climate that such practices are responsible for creating [11,18]. One of the pedagogical practices promoted by universities as sustainable is student-centered learning [3]. Broadly speaking, the term refers to adjustments of teaching activities intended to maximize stu-
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Notably, Weimer [21] identifies five key adjustments that educators need to make to their teaching to conform their instruction to this pedagogy: (a) **Sharing decision-making power** entails decisions about instruction (including content, scheduling, attendance policies, evaluation, etc.) that are not made by the educator independently but rather negotiated with the students to promote accountability, confidence, and intrinsic motivation. (b) **Helping students learn how to learn** refers to assisting students in acquiring and practicing critical thinking and problem-solving skills. (c) **Assuming the role of a guide** requires that faculty discard the traditional “sage on the stage” role. Accordingly, faculty no longer view students as empty receptacles to be filled with knowledge and informed advice but as seekers to be guided along a path of intellectual discoveries. (d) **Expecting students to take responsibility for their learning** through fostering active involvement in the learning process. Students are expected to take control over their education [22], instead of passively receiving information from “the sage on the stage”. That is, they are asked to change a posture that is rooted in the misconception of the educator as exclusively responsible for their academic progress. (e) **Evaluating students to promote learning**, not merely to generate grades. In this context, students are taught to critically assess their work and that of their peers through clearly stated course objectives and learning goals.

At institutions of higher education across the globe, the implementation of policies concerning a student-centered pedagogy, within which the active learning of key academic and professional competencies is expected to occur [23], is challenged by the same institutions’ reliance on grades. How do educators respond to the cognitive dissonance created by explicitly stated policies dictating student-center education and the pervasive requirements to use grades to assess and evaluate students’ performance? Cognitive dissonance is an uncomfortable state of inner tension, which occurs whenever people hold two contradictory beliefs or carry out actions that are inconsistent with their beliefs [24]. Dissonance is a powerful motivator that, much like hunger or thirst, encourages people to do something to reduce it.

The present study relies on a finite set of premises. First, it is assumed that if practices at the macro-level define the boundaries for what is possible at the micro-level, educators are chiefly responsible for translating institutional policies into reality. Second, classroom practices of different educators may promote or de-emphasize either grades or learning. Educators’ attitudes and behaviors toward grades and learning may be shaped by a variety of factors besides institutional policies, such as training and personal experiences, which determine the full realization of such policies in the classroom. Third, educators’ attitudes and behaviors toward grades and learning define not only how they teach, but also how students regard themselves, the educators, and the education to which they are exposed [14,25]. Thus, such attitudes and behaviors are impactful.

Based on these premises, the present study examines the responses of faculty at a university in the Middle East to institutional policies dictating the use of student-centered teaching to foster active learning. In this context, active learning is defined as “anything that involves students in doing things and thinking about the things they are doing” [26] (p. 19). How do faculty respond to these institutional policies? At one extreme, conformity means that faculty adopt attitudes and behaviors that are intended to direct students’ attention and efforts to learning valuable knowledge and competencies even though grades are so omnipresent and impactful. At the other extreme, dissent may translate into the complete embrace of assessment and evaluation as the necessary tools to motivate students and measure academic success. Because both attitudes and behaviors may coexist, the study asks where faculty locate themselves on the continuum defined by these two extremes.

The rationale upon which the present study relies is that sustainable education, at the very least, meets the basic needs of all students and offers them opportunities to satisfy their aspirations [27]. The acquisition of valuable knowledge and competencies is the most fundamental of students’ needs. A student-centered pedagogy promoting active learning optimizes students’ acquisition of valuable knowledge and competencies. As such, the faculty’s compliance with its main tenets through their adoption in the classroom...
is a critical aspect of the sustainability of the education that a university delivers. In this manuscript, a practical approach to assess compliance is presented.

2. Materials and Methods
2.1. The Sample
Participants were 128 full-time faculty of a university located in the Eastern Province of the Kingdom of Saudi Arabia (KSA) who filled out the Learning Orientation/Grade Orientation Scale: Form F (LOGO: F) [28,29]. Respondents included 52 females, representing 67.53% of the female faculty, and 76 males, representing 58.02% of the male faculty at the selected university ($n = 208$). The overall participation rate might be higher than 61.54% due to some faculty not teaching during the COVID-19 pandemic, even though they were included in the full-time faculty total ($N = 208$). Participants possessed either a master’s degree (36.72%) or a doctoral degree (63.28%) obtained from higher education institutions mostly located in the US and UK. They were affiliated with one of the six colleges of the selected university: Engineering, Computer Engineering and Science, Business Administration, Law, Architecture and Design, and Sciences and Human Studies. Faculty’s countries of origin spanned five continents: Africa, Asia, Australia, Europe, and the Americas. Their experience, as measured by the number of years of college-level teaching, ranged from 2 to 39 ($M = 13.58$).

The selected institution adopts a curriculum of US import based on students’ acquisition of key academic and professional competencies whose foundations have been approved by the Texas International Education Consortium (TIEC). Faculty’s instruction is expected to conform to a student-centered model prioritizing active learning to encompass all levels of Bloom’s taxonomy [30–33]. English is the primary mode of communication for the delivery of the curriculum.

2.2. Procedure and Materials
Towards the end of the fall 2020 semester, the LOGO: F questionnaire [28,29] was sent to all 208 faculty of the selected university via email. The questionnaire assessed faculty’s orientation towards learning (LO) and grades (GO). It contained 20 statements comprising an attitude sub-scale and a behavioral sub-scale of 10 items each. Specifically, ten statements measured faculty’s attitudes on a 5-point scale from “strongly disagree” (0) to “strongly agree” (4) with “neither disagree nor agree” (2) as the neutral point. The other 10 statements described the faculty’s behaviors. In this sub-scale, respondents were asked to report the frequency with which each statement described their conduct on a 5-point scale from “never” (0) to “always” (4).

Accompanying the LOGO: F questionnaire, there were a few demographic questions, which asked participants to report the number of years of university-level teaching they had accumulated, nationality, gender, degree possessed, and the college to which they were currently affiliated. Participation was voluntary. To preserve the anonymity of the respondents, thereby encouraging candor, no additional personal information was demanded. Google Surveys was the platform used for administration and data collection. Faculty participation complied with the guidelines of the Office for Human Research Protections of the US Department of Health and Human Services and with the American Psychological Association’s ethical standards in the treatment of human subjects.

3. Results
Table 1 reports the descriptive statistics (means and standard errors of the mean) for the items of the LOGO: F questionnaire, conceptually organized into an attitude and a behavioral sub-scale [34]. In the analyses described below, all results are significant at the 0.05 level.
Table 1. Descriptive statistics of each item of the sub-scales of the LOGO: F questionnaire.

| Attitude Sub-Scale (potential range: 0–4)                                                                 | Mean   | SEM   | Mean LO Inclination |
|---------------------------------------------------------------------------------------------------------|--------|-------|---------------------|
| Without regularly scheduled exams most students would not learn the material I present. (GO)            | 2.68   | 0.106 | 69.35               |
| I think students should be encouraged to collaborate rather than compete. (LO)                           | 2.91   | 0.087 | 81.45               |
| I think college grades are good predictors of success in later life. (GO)                               | 2.14   | 0.087 | 41.13               |
| Students’ concern about grades often interferes with learning in my classroom. (LO)                     | 2.69   | 0.091 | 65.32               |
| I think it useful to use grades as incentives to increase student performance. (GO)                   | 2.48   | 0.087 | 63.71               |
| I wish my colleagues across the campus were tougher graders. (GO)                                       | 2.09   | 0.085 | 28.23               |
| I don’t mind if students enroll in my classes under the “pass/fail” or “audit” options. (LO)         | 2.47   | 0.104 | 58.06               |
| I think my colleagues across campus place too much emphasis on using grades to motivate students. (LO) | 2.16   | 0.079 | 33.87               |
| I worry about colleagues who are giving an ever-increasing number of As and Bs. (GO)                   | 2.39   | 0.088 | 45.16               |
| I would prefer teaching a course in which no grades were given than a typical graded course. (LO)     | 1.86   | 0.108 | 29.84               |

| Behavior Sub-Scale (potential range 0–4)                                                                 | Mean   | SEM   | Mean LO Inclination |
|---------------------------------------------------------------------------------------------------------|--------|-------|---------------------|
| I set grading standards that are designed primarily to challenge the brightest students in my classes. (GO) | 1.70   | 0.110 | 26.61               |
| I emphasize in my conversations with students the importance of studying to obtain “good grades.” (GO) | 2.25   | 0.115 | 48.39               |
| I allow students the opportunity to choose among alternative assignments as a way to enhance motivation. (LO) | 1.94   | 0.097 | 29.84               |
| I encourage students to raise questions in class that are topic-related but which also go beyond the scope of the tests I prepare. (LO) | 3.14   | 0.087 | 77.42               |
| I am willing to make exceptions to stated grading criteria when unusual circumstances arise. (LO)     | 2.34   | 0.098 | 42.74               |
| I design course assignments that encourage students to read outside my discipline. (LO)               | 2.38   | 0.096 | 45.97               |
| I orient my teaching style (e.g., content, pace, & difficulty level) to satisfy the needs of upper-level students and hope that the others can keep up. (GO) | 1.59   | 0.119 | 25.81               |
| I encourage students to focus on their studies and to limit their participation in extracurricular activities which might jeopardize their GPA. (GO) | 0.76   | 0.087 | 4.03                |
| I tell students that competition for grades prepares them for the competitive nature of adult life. (GO) | 0.98   | 0.108 | 14.52               |
| I reward student improvement and growth by weighing the students’ progress in my grading system. (LO) | 2.32   | 0.100 | 42.74               |

Note: In parentheses, LO refers to learning orientation, and GO to grade orientation, according to the analyses of Eison et al. [29].
3.1. Faculty’s Responses to the Attitude Sub-Scale

The neutral point on the attitude sub-scale was 2. Thus, respondents’ answers greater than 2 indicated consent with either a GO or a LO item. A measure of a faculty’s overall LO (named LO inclination hereafter) was obtained by computing the percentage of responses of each participant that were above 2 when responding to the five LO items, and below 2 when responding to the five GO items (see Table 1). It was hypothesized that if institutional policies were implemented in the classroom, faculty would mostly endorse LO items as well as disagree with GO items. An inclination towards LO attitudes was attributed to a faculty with 50% or more responses endorsing LO items and disagreeing with GO items. Only 40 faculty out of 128 (31.25%) had attitudes exhibiting a LO inclination.

Were there differences in LO inclination, as measured by attitudes, attributable to gender (female versus male) or degree (Master’s versus Ph.D.)? To answer this question, a 2 (gender) × 2 (degree) ANOVA was carried out. Female faculty had a greater LO inclination than male faculty, $F(1, 124) = 4.71$, $MSE = 318.48$, $p = 0.032$, $\eta^2 = 0.037$ ($M = 39.84\%$, $SEM = 2.48$, versus $M = 32.57\%$, $SEM = 2.26$). Ph.D. holders also had a greater LO inclination than Master’s holders, $F(1, 124) = 7.34$, $MSE = 318.48$, $p = 0.008$, $\eta^2 = 0.056$ ($M = 40.74\%$, $SEM = 2.10$, versus $M = 31.66\%$, $SEM = 2.61$). However, there was no interaction between gender and degree, $F < 1$, $ns$.

It is important to note that in this analysis, the variable degree was confounded with years of teaching experience. Namely, a Master’s degree was associated with less teaching experience than a Ph.D., $F(1, 126) = 11.24$, $MSE = 75.81$, $p = 0.001$, $\eta^2 = 0.082$ ($M = 10.19$, $SEM = 1.27$, versus $M = 15.54$, $SEM = 0.97$). Thus, the use of an ANCOVA to control for years of experience was unfeasible. There were no gender differences in teaching experience though, $F = 3.73$, $ns$.

3.2. Faculty’s Responses to the Behavioral Sub-Scale

The behavioral sub-scale asked respondents to assess the frequency with which LO or GO behaviors were adopted. It was thought that the more frequent a particular behavior, the more likely that behavior is to be a habit for the faculty who displays it. Thus, for each faculty, answers above 2 (i.e., the point labeled “sometimes”), such as 3 (often) or 5 (always), were conceptualized as indicating that either a GO or a LO behavior was a relevant contributor to that faculty’s teaching. A measure of each faculty’s LO inclination, as measured by behaviors (see Table 1), was obtained by computing the percentage of responses that were above 2 when responding to the five LO items (often and always), and below 2 when responding to the five GO items (never and seldom). It was hypothesized that if the institutional policies covering pedagogy were effective, faculty’s behaviors would frequently rely on LO behaviors, but not on GO behaviors. A faculty’s LO inclination expressed in behavior was operationalized as 50% or more of “often” or “always” responses to LO items and of “never” or “seldom” responses to GO items. Contrary to the small group of faculty who exhibited a LO inclination, as measured by attitudes, 86 faculty out of 128 (67.19%) reported behaviors indicative of a LO inclination.

Were there differences in behaviors illustrating a LO inclination that could be attributed to gender (female versus male) or degree (Master’s versus Ph.D.)? To answer this question, a 2 (gender) × 2 (degree) ANOVA was again carried out on the responses to the behavioral sub-scale. There were no differences between females and males ($M = 52.78\%$, $SEM = 2.63$, versus $M = 49.82\%$, $SEM = 2.40$), and Master’s or Ph.D. holders ($M = 50.00\%$, $SEM = 2.77$, versus $M = 52.59\%$, $SEM = 2.23$). There was also no evidence of an interaction, $F$s $(1124) < 1$, $ns$.

3.3. Relevant Dimensions

An examination of the internal consistency of the faculty’s responses to either the attitude or the behavioral sub-scale (Cronbach’s Alpha = 0.412 and 0.655, respectively) indicated that each sub-scale comprised several dimensions that added complexity to the conceptual labels suggested by Eison et al. [34]. Thus, a principal component analysis (PCA)
was conducted on the 10 items of each sub-scale with oblique rotation (direct oblimin). For the attitude sub-scale, the Kaiser-Meyer-Olkin (KMO) measure verified the sampling adequacy for the analysis to be 0.59, a value that is above the level of acceptability of 0.5 [35]. Bartlett’s test of sphericity indicated that the correlations between items were sufficiently large for PCA to be performed, $X^2 (45) = 153.19$, $p < 0.001$. Table 2 shows the factor loadings after rotation (structure matrix) of the PCA performed on the attitude sub-scale. According to Stevens’s guidelines [36], factor loadings above the critical value of 0.512 are to be considered significant. In the table, factors with loadings above this critical value appear in bold characters.

Table 2. Rotated factor loadings of faculty’s responses to the attitude sub-scale of the LOGO: F questionnaire organized by the dimensions uncovered by PCA.

| Attitude Items                                                                 | 1   | 2   | 3   |
|-------------------------------------------------------------------------------|-----|-----|-----|
| **Stance against grades**                                                     |     |     |     |
| I think students should be encouraged to collaborate rather than compete.     | 0.657 | 0.068 | 0.169 |
| (LO)                                                                          |     |     |     |
| Students’ concern about grades often interferes with learning in my classroom. | 0.724 | 0.078 | −0.027 |
| (LO)                                                                          |     |     |     |
| I would prefer teaching a course in which no grades were given than a typical graded course. | 0.641 | 0.148 | −0.446 |
| (LO)                                                                          |     |     |     |
| **Concern about grade inflation**                                            |     |     |     |
| I wish my colleagues across the campus were tougher graders.                 | 0.027 | 0.783 | 0.241 |
| (GO)                                                                          |     |     |     |
| I worry about colleagues who are giving an ever-increasing number of As and Bs. | 0.065 | 0.888 | −0.038 |
| (GO)                                                                          |     |     |     |
| **Stance in favor of grades**                                                 |     |     |     |
| Without regularly scheduled exams most students would not learn the material I present. | 0.030 | 0.190 | 0.697 |
| (GO)                                                                          |     |     |     |
| I think college grades are good predictors of success in later life.         | −0.167 | 0.027 | 0.530 |
| (GO)                                                                          |     |     |     |
| I think it useful to use grades as incentives to increase student performance.| −0.105 | −0.054 | 0.775 |
| (GO)                                                                          |     |     |     |
| I don’t mind if students enroll in my classes under the “pass/fail” or “audit” options. | 0.463 | −0.060 | −0.318 |
| (LO)                                                                          |     |     |     |
| I think my colleagues across campus place too much emphasis on using grades to motivate students. | 0.476 | 0.375 | −0.250 |
| (LO)                                                                          |     |     |     |
| **Eigenvalues**                                                              |     |     |     |
| % of variance                                                                 | 2.11 | 1.75 | 1.26 |
| % of variance                                                                 | 21.09 | 17.49 | 12.57 |

Note: Factors loadings greater than 0.512, which are considered significant according to Stevens’s guidelines [36], appear in bold. In parentheses, LO refers to learning orientation, and GO to grade orientation, according to the analyses of Eison et al. [29].

The attitude sub-scale yielded three factors all with positive loadings and eigenvalues above Kaiser’s criterion of 1. Combined, they explained 51.14% of the variance in faculty’s attitudes. The factor labeled “stance against grades”, which accounted for 21.09% of the variance, included three items that reflected a teaching style that rejected grades as not useful instructional tools. The factor labeled “concern about grade inflation”, accounted for 17.49% of the variance, and included two items referring to standards of grading. The remaining factor, which accounted for 12.57% of the variance, was labeled “stance in favor of grades”. It underscored a view of grades as useful tools, either as motivators of academic activities or as predictors of life attainment. Two items had negligible loadings (see bottom of Table 2). One reasonable explanation for the low loadings of the item citing the practice of enrollment under the “pass/fail” or “audit” option might be that,
at the selected university, this practice is rarely used by students. The low loadings of the item referring to colleagues’ behavior towards grades might be attributed to its wording and location. Note that the attitude sub-scale contains another item that refers to colleagues’ behavior, presented immediately after the one with low loadings. The item refers to tangible evidence (i.e., grade inflation) with a mild tone, whereas the item with low loadings contains an assumption that is difficult to ascertain (i.e., faculty’s use of grades as motivators), which makes it sound like a rumor. In a society driven by collectivistic norms, in which the selected university exists, comments regarding others are decidedly minimized because they are seen as puncturing the cohesiveness of the existing social fabric [37]. As such, the item might become culturally inappropriate, thereby receiving a mixed reception.

For the behavioral sub-scale, the KMO measure verified the sampling adequacy for the analysis to be 0.69, a value that is above the level of acceptability of 0.5 [35]. Bartlett’s test of sphericity indicated that the correlations between items were sufficiently large for PCA to be performed, $X^2(45) = 191.19, p < 0.001$. Table 3 shows the factor loadings after rotation (structure matrix) of the PCA performed on the behavioral sub-scale. In the table, factors with loadings above the critical value of 0.512 [36] appear in bold characters.

Table 3. Rotated factor loadings of faculty’s responses to the behavioral sub-scale of the LOGO: F questionnaire organized by the dimensions uncovered by PCA.

| Behavioral Items                                                                 | 1        | 2        | 3        |
|----------------------------------------------------------------------------------|----------|----------|----------|
| *Flexibility in teaching*                                                        |          |          |          |
| I allow students the opportunity to choose among alternative assignments as a way to enhance motivation. (LO) | 0.520    | −0.363   | −0.407   |
| I encourage students to raise questions in class that are topic-related but which also go beyond the scope of the tests I prepare. (LO) | 0.642    | 0.184    | 0.036    |
| I am willing to make exceptions to stated grading criteria when unusual circumstances arise. (LO) | 0.671    | −0.010   | −0.226   |
| I reward student improvement and growth by weighing the students’ progress in my grading system. (LO) | 0.753    | −0.302   | −0.241   |
| *Teaching emphasizing grades*                                                     |          |          |          |
| I emphasize in my conversations with students the importance of studying to obtain “good grades.” (GO) | −0.019   | −0.714   | −0.050   |
| I encourage students to focus on their studies and to limit their participation in extracurricular activities which might jeopardize their GPA. (GO) | −0.143   | −0.702   | −0.325   |
| I tell students that competition for grades prepares them for the competitive nature of adult life. (GO) | 0.244    | −0.765   | −0.004   |
| *Teaching the best and the brightest*                                             |          |          |          |
| I set grading standards that are designed primarily to challenge the brightest students in my classes. (GO) | 0.033    | −0.142   | −0.783   |
| I orient my teaching style (e.g., content, pace, & difficulty level) to satisfy the needs of upper-level students and hope that the others can keep up. (GO) | 0.189    | −0.205   | −0.808   |
| I design course assignments that encourage students to read outside my discipline. (LO) | 0.298    | 0.135    | −0.511   |
| Eigenvalues                                                                       | 2.55     | 1.59     | 1.30     |
| % of variance                                                                    | 25.48    | 15.92    | 13.00    |

The behavioral sub-scale yielded three factors that had eigenvalues above Kaiser’s criterion of 1 and in combination explained 54.40% of the variance in faculty’s behaviors. One factor, labeled “flexibility in teaching” underlined a teaching style that is accommodating in terms of both grading criteria and classroom management. It accounted for 25.48% of the
variance and included 4 items, all with positive loadings. Another factor, labeled “teaching emphasizing grades”, which included three items with negative loadings, underscored a disagreement with over-valuing grades (15.92% of the variance). The third factor, labeled “teaching the best and the brightest”, which included two items also with negative loadings, reflected a disagreement with a teaching style focused on the best students (13.00% of the variance). One item, which cited behaviors intended to encourage students to go beyond the discipline taught, did not have substantial loadings. It is reasonable to assume that this item might have generated some confusion, as it was perceived as both a deviation from the aim of teaching a specific subject matter and a difficult proposition to implement.

4. Discussion

The present study relied on the assumption that educators are responsible, to a significant extent, for the implementation of institutional policies. It was noted that implementation may be in jeopardy when inconsistencies exist between the emphasis on learning, which is explicitly advocated by most institutional policies, and the practice of relying on grades to assess and evaluate students’ attainment, which is routine at institutions of higher education across the globe. The study was an attempt to delve into the cognitive dissonance that is experienced by educators and determine how they might resolve it. Cognitive dissonance is an uncomfortable state of inner tension, which occurs whenever people hold two contradictory beliefs or carry out actions that are inconsistent with their beliefs [24]. Dissonance is a powerful motivator that, much like the physiological needs of hunger or thirst, encourages people to do something to reduce it. The present data offer a window into how the faculty of a university responded to the cognitive dissonance ignited by policies that are to a certain degree inconsistent with broader institutional practices.

The findings can be summarized in three points: first, it was easier for faculty to express their LO inclination when responding to the items of the behavioral sub-scale than to the items of the attitude sub-scale, as indicated by the percentage of respondents who were classified with a LO inclination (67.19% and 31.25%, respectively). This discrepancy might reflect the fact that actions are easier to understand and verbalize than one’s thoughts and opinions.

Second, females and Ph.D. holders tended to exhibit attitudes with a greater LO inclination. However, such differences did not carry over to reported behaviors, suggesting that the attitude sub-scale might have captured more the intentions of the respondents rather than their actual conduct.

Third, the items of both sub-scales coalesced around a few themes, as indicated by PCA, each defined by a particular response to the practice of assessment and evaluation through grades. In agreement with Eison et al. [29], the LOGO: F was not found to be unidimensional. Furthermore, there were clusters of items, which did not entirely overlap with those found by Eison et al. [29] who relied on a much larger group of participants from US institutions and a slightly different PCA analysis. However, the relevance of the results of the present investigation is not to be found in the extent to which results generalize to other institutions or overlap with those of earlier studies. Rather, their relevance is to the particular institution that produced them. Namely, their value resides in revealing the extent to which the implementation of pedagogical policies is realized at a given time and in a particular context.

The Utility of the LOGO: F Sub-Scales for Institutional Aims

The results of investigations similar to the current one can be particularly useful to the administrative body of the institution where they were collected. They can be used to submit to critical analysis instructional policies that appear to contradict existing practices, thereby fostering confusion and delaying widespread implementation. The goal is to aid faculty to find ways to emphasize learning and de-emphasize grades if the use of the latter is to be preserved.
How can educators use grades as opportunities to learn, instead of mere tools for evaluation? It is not enough for individual educators to reflect critically on their grading practices and personally alter such practices if the surrounding educational context promotes grades as a valuable currency. That very context is likely to undermine their efforts to direct students’ attention to learning, thereby reducing potentially useful changes to negligible idiosyncrasies. If key rewards and penalties, at the institution in which students are enrolled, are determined by grades, it is not sufficient to grumble that students’ concerns about grades interfere with their learning or to desire students who are engaged in active learning, self-motivated, and committed to knowledge acquisition and skill development. Of course, individual educators are largely responsible for what goes on in their classes, but a collective action, organized by the employing institution, can generalize changes from the micro-level to the macro-level.

Collective action can ensure not only the effective implementation of desirable institutional policies throughout the entire body of a university or college but also their sustainability. Eison et al. [34] advocate different ways to promote reflection on grades and related policies, which they consider the unavoidable step towards a change in the use of grades by educational institutions. For instance, they suggest the use of group discussion guided by case studies, which allows participants to debate honestly and openly the sensitive issue of grading with some distance from it. Another option is the administration of the LOGO: F scale to educators to bring to the forefront the issue of grading for personal reflection, group discussion, or as a guide to instructional design. Each of the dimensions that have been identified in the PCA described above can create themes for fruitful self-reflection and discussion.

Farias et al. [14] recognize that educators may vary in the extent to which they are oriented towards either learning or evaluation and assessment through grading. Likewise, students are thought to differ from each other in the extent to which their concerns focus on the acquisition of valuable knowledge and skills as opposed to the collection of good grades. If the orientation of the educators does not align with that of the students, the potential for miscommunication is high. Frustration is likely to permeate interactions inside and outside the classroom because of the different frames with which students and educators see each other. Thus, a useful activity may be one in which attitudes and behaviors regarding learning are surveyed in both faculty and students. To this end, the LOGO II questionnaire, developed by Eison et al. [38], can be used as an assessment tool for students’ attitudes and behaviors towards learning and grades. A comparison of the results of the LOGO II and those of the LOGO F: questionnaires [28,29] can offer valuable information to educators who are encountering dissent in their classes [13] and/or experience dissatisfaction with their students’ approach to knowledge acquisition. A review of the answers to each item or dimension in both questionnaires may highlight specific areas where pedagogical change can be realized.

5. Conclusions

Although the results of the present study are not intended to be generalized to other institutions, the data-driven approach to education they advocate is thought to apply to situations in which old and new policies may not coexist without some compromise yet to be envisioned or successfully implemented. Consider, for instance, the struggle that educational institutions around the world experience when attempting to reconcile the aim of academic excellence (i.e., the acquisition of knowledge and competencies to the expert level) with the need to ensure equity (i.e., equal opportunities and resources to all students) [27]. It is in these situations that a data-driven approach may inform the decision-making process of an institution about the compromises to make. A data-driven approach may be also adopted to address particular issues encountered by a higher education institution, such as its adherence to gender equity standards [39] or its facing high withdrawal rates [40], to understand their sources and develop workable interventions. More broadly, a data-driven approach of this nature can be used by institutions to determine the extent to
Sustainable education is chiefly defined by a pedagogy that is sustaining, tenable, healthy, and durable. Undoubtedly, a student-centered pedagogy fits this definition. Notwithstanding the local relevance of particular results, the approach to educational practices advocated by our research has a broader reach, especially if institutions that adopt a US educational curriculum and pedagogy in a foreign land are considered. Such institutions are often faced with cultural and religious practices that may defeat the implementation of the intended educational model. In these contexts, a data-driven approach can aid instruction and assessment which need to be mindful of students’ unique cultural and religious habits and needs.

The university selected for the present study is a prototypical example of the challenges that such institutions face and of how challenges can be addressed. Located in KSA, the university caters to young, Arabic-English bilingual speakers who are Saudi nationals. Such students are accustomed to an instructor-centered education that values the Middle Eastern tradition of oral transmission, and, with it, replication of knowledge, under the guidance of an expert (i.e., the instructor as the sage on the stage). Students come to the university with a rich background of valued tribal and religious customs typical of the Middle East, which requires consideration as well as adjustment to a student-centered pedagogy. The latter prioritizes active learning and conceptualizes knowledge acquisition as a process of active and largely independent construction and manipulation of information. Thus, students are faced with instructors serving as facilitators and with activities that require their active contribution [42]. Not surprisingly, the selected university has implemented a data-driven approach to determine the effectiveness of instruction and to ascertain the need for alterations of current practices and related implementations, e.g., [43].

Of course, our approach is by no means unique. A data-driven approach to education may take different forms depending on the aims of the parties involved (e.g., educators, researchers, administrators, etc.). It may be particularly useful in situations in which a change is advocated and training is administered, but no clear evidence exists about the impact of the proposed change besides self-reported adherence. The primary target audience may be educators, as exemplified by the work of Camerino et al. [20] who examined the effectiveness of a particular continuing professional development training on educators’ behavior in the classroom. The target audience may also be students, as exemplified by the work of Valero-Valenzuela et al. [18] who examined students’ responses to a novel pedagogical model in the classroom. In both instances, the results of the researchers’ data analyses offer an objective platform from which to understand the complexities of the educational process as well as the impact of ostensibly desirable interventions. Objectivity, grounded in the scientific method, can then become the springboard for a conversation involving administrators and other constituents regarding the feasibility and effectiveness of such interventions, and the ensuing need for further action, alteration, or disposal. Yet, the ultimate goal remains a sustainable approach to educational practices, which without objective data, and the motivation to understand and improve current practices, is unlikely to succeed.

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