Office for Education Policy

Arkansas Education Report

Volume 20, Issue 3

A Glimpse into Arkansas Teachers' Grading Practices

2022-23

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April 26, 2023

Abstract:

This case study assesses the current, self-reported grading practices among Arkansas teachers. We distributed a Teachers' Grading Perceptions survey in November, 2022, and we conducted semi-structured interviews with teachers and principals in January-February, 2023. We gathered both quantitative and qualitative data from the teacher survey, and we used interviews to collect themes for current grading practices in Arkansas's schools. We generated a grading equity scale from the survey questions, verified by a reliable alpha coefficient = 0.83, and we use this in a multivariate regression to explore teacher characteristics and their likelihood of favoring grading equity practices. We collected themes from qualitative remarks in the survey and stated in the interviews. We discuss our findings in the context of current grading practices in Arkansas and conclude with policy suggestions for district leaders to implement and help provide more opportunities for students to succeed.

Keywords:

Grading practices, grading, standards-based grading, teachers

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I. Major Findings

- Holding all else equal, higher levels of support for grading equity practices is associated with more liberal leaning political ideologies, higher levels of education, teaching in lower grade levels, and teaching in core subject areas.
- Four major themes emerged for how Arkansas teachers developed their grading practices: with an equity-based lens; through professional development, continuing education, or personal research; by adhering to traditional grading practices; and by valuing students' behaviors and efforts. Twenty-five percent of our sample claims to be employing equity-based grading practices, but report employing grading practices that are not focused on mastery of standards (by not allowing retakes, taking off points for late work, grading on soft skills like punctuality, classroom behavior, groupwork compliance, and providing opportunities for extra credit).
- All interview participants reported being committed to grading practices that are best for students, with majority of the participants reporting a dedication to only grading on the standards.
- Moreover, majority of the interview participants stated implementing fairer grading practices should be a slow process and that it works best with a lot of collaboration between administration and teachers. Interviewees note starting with teachers' beliefs and core values is the only way to effectively implement grading changes that work best for students.

II. Literature Review

Student grades can indicate and predict future success (Allensworth & Clark, 2020; Morris et al., 2021). Economist researchers find high school GPAs positively associated with earnings, educational attainment, and labor market outcomes (French et al., 2015). Accordingly, focusing on the rationales and procedures of teachers' grading practices is essential to enable more effective evaluations of students because not all students' abilities correlate with their teacher-assigned grades (Stiggins et al., 1989).

The A-F grading system was introduced in the late 1800s and has since been the most widely used grading system in the United States and many other countries (Schneider & Hutt, 2013). Twentieth-century schools reacted to the current climate—the rise of manufacturing, progressive educators, migration and immigration, intelligence testing, behaviorism—to use grades as a way to sort students and provide efficient Americans for workforce employment (Feldman, 2019). The traditional grading methods developed in the twentieth century were designed with the societal belief that students achieve on a curve and are effectively motivated through extrinsic reinforcement and punishments (Feldman, 2019).

Recent research and a century of learning about grading permit for a more informed sense of grading practices away from traditional, industrial revolution beliefs (Feldman, 2019). Traditional grading practices that grew from these beliefs include homework completion, class participation, punctuality on turning in assignments, numerating student behavior, not allowing retakes, allowing for extra credit opportunities, averaging grades, weighting grades, assigning 0s on the 0-100-point scale, and factoring in student effort (Guskey, 2020). Researchers often refer to the resulting traditional grade as a "hodgepodge" grade (Brookhart, 1991). A student's final

grade is often a confusing union of multiple components that's difficult to interpret (Cross & Frary, 1999).

Despite the potential drawbacks, some teachers favor the conglomerate grading approach because it allows for a more holistic and all-encompassing assessment of students as complete individuals (Cross & Frary, 1996). This method of grading, however, can also be connected to the desire to maintain discipline in schools, as a lack of order and proper behavior can create an unfavorable learning environment (Payne, 2013). In contrast, grading students on factors other than their learning and knowledge has been found to lower student motivation; rewards and punishments through grading decrease motivation and creativity (Kohn, 1999). Punishing students with a zero for a behavior can be detrimental to students' motivation and thus to their learning (Feldman, 2019; Guskey, 2004).

While some teachers prefer the "hodgepodge" grade (Brookhart, 1991), other teachers grade based on their differing perspectives. Teachers' grading practices are influenced by their personal beliefs (Bonner & Chen, 2017; Kunnath, 2017; McMillan & Nash, 2000). Brewer and Stonecash (2015) theorize personal responsibility separate political ideologies and personal beliefs. Sun & Cheng (2014) find teachers assign grades based on how they value grades; some teachers see grades as a way to motivate, while others see grades as only a way to evaluate current student progress. How a teacher assesses reflects a teacher's philosophy on the purpose of the school (Olsen & Buchanan, 2019). Bonner (2016) finds that some teachers view grading as a way to help students learn better. Not surprisingly, researchers find that teachers develop their grading practices from numerous sources including personal beliefs, philosophies of educational purposes, professional development, their own schooling experiences, and influence from prior educators (Brookhart & Guskey, 2019; Olsen & Buchanan, 2019).

Beyond this innate desire to include a student's behavior into the final grade, teachers that grade with alignment to academic content standards have positive impacts on student and educational achievement (Betts & Grogger, 2003; Bonesrønning, 2004). In a meta-analysis, Brookhart et al. (2016) find grading practices only based on standards with multiple pieces of evidence of mastery are more meaningful, valid, and reliable than grading practices that do not. When grades are only aligned to standards and not behavior, teachers can more effectively communicate student success to parents and stakeholders (Brookhart & Guskey, 2019).

Recently, some teachers and researchers are exploring grading equity practices that aim to be accurate, bias-resistant, and motivational. These grading equity practices include but are not limited to (Feldman, 2019): avoiding assigning zeros on the 0-100-point scale; practicing minimum grading, the act of limiting the 0-100-point scale to 50-100; grading on a 0-4-point scale, where each number is assigned a letter (4-A, 3-B…0-F); using a student's most recent performance on a standard as their demonstrated competence; not grading group work, and only grading individual's performances in group work; not allowing extra credit, and only grading on the standards; grading student work only versus the timing of that work; giving non-grade consequences for cheating and excluding participation and effort from the grade; final grades based majorly on summative assessments with only formative assessments as supports; allowing retake grades to replace former grades completely as the new evidence of learning; standards-based grading practices; and giving feedback remarks as grades as opposed to points or letter scales.

Only basing grades on content criteria reduces grade inflation (Guskey, 2006), and exchanging in the 0-100-point scale for the 0-4- or 1-4-point scale manipulates grades less (Guskey, 2013). Not only is standards-based grading (SBG) fairer for students (Guskey & Jung,

2013), but SBG improves student learning, engagement, and classroom behavior (Knight & Cooper, 2019). Teachers can better focus instruction on areas students struggle with SBG instead of averaging away areas of concern (Munoz & Guskey, 2015). Grading should serve as a means of effectively and reliably conveying feedback on a student's progress and performance with regards to a standard, focusing on areas for improvement rather than simply indicating where the student has concluded their learning. (Kramer, 2017).

This Study

Arkansas has no state-wide grading policy and there is currently no research about grading practices being employed in schools in Arkansas. This case study descriptively analyzes the current grading practices of Arkansas teachers. We aim to fill the gap in research of current grading practices for the state of Arkansas. We examine a teacher survey reporting teachers' perceptions of grading equity practices, teachers' qualitative comments for how they developed their grading practices, and interviews with Arkansas educators describing their school buildings' grading practices further.

Our research will answer the following questions:

- How do Arkansas teachers currently perceive grading equity practices?
- How have Arkansas teachers developed their grading practices?
- What is the current state of grading practices in Arkansas?

III. Methods

Teacher Survey Sample

In November 2022, the Office for Education Policy (OEP), distributed a 19-item survey for Arkansas teachers. The survey was made in Qualtrics, and distributed through the OEP email

to each Arkansas principal, with a request to forward the survey to their teachers. The survey provided an option to participate in a gift card incentive lottery upon completion. The survey was pretested by graduate students and one professor, all of which are former teachers. On average, pretests indicated the survey took about 7-8 minutes.

Due to the difficulty in calculating the survey response rate, as the survey links were distributed to school principals who then had to distribute and encourage participation, the actual number of teachers who received the survey cannot be determined. Furthermore, the discrepancy between the number of teachers in the demographic sample and those currently employed means that the response rate is only an estimate. As shown in Table 1, the estimated response rate is approximately 11%, with 506 out of the speculated 4,398 potential teachers completing the survey. We find this speculated total by calculating the total number of teachers in the buildings that had at least one teacher complete the survey.

Table 1: Teachers' Grading Perceptions Survey demographics response rate, 2022

Race	Sample	State	Response Rate
American Indian or Alaska Native	21	201	14.3
Asian	33	170	9.1
Black or African American	185	3,540	9.2
Hispanic	84	601	16.6
Other	14	184	50.0
White	4,061	41,988	10.9
Total	4,398	46,684	11.0

Using the reporting for teacher demographics published by the Arkansas Department of Education (ADE), we find our sample of 506 teachers is fairly representative of the state. We present a comparison of our sample's demographics and to the ADE's reported demographics in Table 2. See appendix for Table 1a for entire demographics for the sample of teachers.

Table 2: Teachers' Grading Perceptions Survey demographics, 2022

Race	Frequency	Percent	State	Percent
American Indian or Alaska Native	3	0.6	201	0.4
Asian	3	0.6	170	0.4
Black or African American	17	3.4	3,540	7.6
Hispanic	14	2.8	601	1.3
Other	7	1.4	184	0.4
Prefer not to say	21	4.2	N/A	N/A
White	441	87.2	41,988	89.9
Total	506	100	46,684	100

White teachers make up 87.2% of the sample and 89.9% of Arkansas public school teachers. The largest disparity is between the ADE-reported Black teachers' percentage, 7.6%, and the percentage of Black teachers in the survey sample, 3.4%. Females make up around 77% of the survey sample, but teacher gender data was not provided by ADE or in other data. Just 17.4% of respondents are K-4 teachers, indicating relatively high participation rates among secondary teachers. English Language Arts (ELA) teachers make up the highest frequency of core courses taught, with the other three core courses following behind—about 70% of the survey sample teaches a core course. On average, teachers in the sample have 15 years of experience, with 56.7% having a Masters, and 8% having an Ed.D. or Ph.D.

Interview Sample

In January and February 2023, OEP conducted semi-structured interviews with Arkansas educators. We emailed principals of buildings serving ninth-grade students inviting them to participate in the voluntary interview. We limited the invitation to buildings serving ninth-grade students to continue to our research with the ninth-grade year and grading practices for ninth-grade students (Morris et al., 2021; Morris & McKenzie, 2022; Morris & McKenzie, 2023). Due to our small sample size, we do not describe demographics or regional locations to preserve

anonymity. Overall, we had 16 educators representing 12 districts participate in the interviews including 10 principals, 4 teachers, 1 instructional facilitator, and 1 assessment director.

Empirical Approach

We use quantitative survey responses from the teacher survey to examine the differences between grading practices and teacher characteristics. We conduct a multivariate regression with these responses to see preferences for grading equity practices by teacher characteristics. We control for teacher demographics, school level fixed effects, political ideology, and personal responsibility. We also analyze qualitative remarks from the survey about how Arkansas's teachers developed their grading practices by using a phenomenological approach. We gather themes by clustering and coding responses, and we triangulate our themes with literature. Lastly, we gather additional themes by analyzing interview comments from Arkansas educators. We report on the three sections of results below.

IV. Results

Quantitative Survey Responses

A total of 506 teachers self-reported the percentage of students who received letter grades as their final grades. On average, the teachers reported that 45% of their students received A's, while only 5.5% received F's. On average, the teachers report daily assignments/in-class assignments to be the largest portion of a student's final grade, about 31%, and tests 24%, quizzes 10.2%, and projects 10.2%. 82.4% affirm their school has a written grading policy, which is not correlated with teacher views of equity-based grading practices.

As shown in Table 3, most teachers report that neither school leaders nor parents pressure them to adjust grades, though the former are slightly more likely to do so. See appendix for Table 2a for entire survey.

Table 3: How often teachers feel pressure from leadership and parents to adjust grades, Teachers' Grading Perceptions Survey, 2022

	Leadership		Parents	
Frequency	N	Percent	N	Percent
Never	191	37.8	131	25.9
Rarely	138	27.3	195	38.5
Sometimes	136	26.9	126	24.9
Often	41	7.9	54	10.7
Total	506	100.0	506	100.0

To calculate the associations between teacher characteristics, and their feelings about grading equity practices, we employ a multivariate regression:

$$y_{ic} = \beta_0 + \boldsymbol{\chi_i\beta_1} + \boldsymbol{responsibility\beta_2} + \boldsymbol{liberal\beta_3} + \Omega_i\boldsymbol{\beta_4} + \boldsymbol{\varepsilon_{ic}}$$

Where:

- y_i is the continuous dependent variable of interest, equity-based grading, for teacher *i*
- $\boldsymbol{\chi_i}$ is a vector of teacher characteristics for teacher *i* (including gender, race/ethnicity, level of education, years of teaching experience, a binary indicator for teaching K-4, teaching 5-8, and/or teaching 9-12, a binary indicator for teaching a core course, non-core course, and/or programmatic course, and a binary indicator for being an athletic coach)
- $\boldsymbol{\beta_2}$ is the estimate of a teacher's level of personal responsibility on a 0 to 1 scale
- $\boldsymbol{\beta_3}$ is the estimate of a teacher's self-reported political liberalism on a 0 to 1 scale
- $\Omega_i\boldsymbol{\beta_4}$ is a school level fixed effect control for teacher *i*
- $\boldsymbol{\varepsilon_i}$ is the random error for teacher *i*

To create the grading equity scale, statements about or practices for grading equity are presented to teachers in the survey. We generated an original 15-item grading-equity scale that we believed to be representative of measuring grading equity practices as a whole, but this original calculation did not prove to be valid. The Cronbach Alpha was 0.77, just below the 0.80 commonly accepted threshold for alpha coefficients. The grading equity scale is in the appendix as Table 3a.

After deleting two items from the scale and adding three new items (these tables can be found in the Appendix as Table 3b-c), the Cronbach Alpha reached 0.83. Given that this is the first instance of utilizing a grading equity scale among survey respondents, we deem it acceptable for the purposes of this research.

The sample size of this regression analysis is 506 teachers and the model accounts for 44% of the variance, with four statistically significant findings. Full regression results can be found in the appendix as Table 4a. After controlling for gender, race/ethnicity, level of education, years of experience, grade level taught, content taught, a binary indicator for previously or currently being an athletic coach at their school, and school-level fixed effects, the following were found to be statistically significantly associated with equity-based grading:

- As teachers increase 1 unit on the self-reported liberal scale, they increase 0.09 units on the grading equity scale. Moreover, more liberal leaning teachers rate 9 percentage points higher towards grading equity practices compared to conservative leaning teachers at the 99% confidence level
- Teachers with Master's Degrees self-rank 4 percentage points higher towards grading equity practices compared to teachers with only Bachelor's Degrees at the 99% confidence level

- Teachers in grade levels K-4 self-rank 6 percentage points higher towards grading equity practices compared to teachers in grade levels 9-12 at the 95% confidence level. There are no statistical significances for middle grade levels, 5-8.
- Teachers in core courses self-rank 3 percentage points higher towards grading equity practices compared to teachers in noncore courses at the 90% confidence level
- There are no statistically significant differences associated with grading equity practices between genders or years of experience.

Overall, the constant for grading equity practices is 0.52, indicating modest favorability towards grading equity practices among the teachers surveyed. Teachers with Master's Degrees compared to Bachelor's Degrees, lower grade teachers compared to secondary level teachers, and core teachers compared to noncore teachers are more likely to prefer grading equity practices.

Qualitative Survey Remarks

Arkansas teachers have developed their grading practices…

Theme 1: With an equity-based lens

According to survey respondents, 27% of Arkansas teachers have developed their grading practices through an equity-based lens. They focus on mastery-based grading or standards-based grading (SBG) to only grade what content a student knows. When some of these educators noted their SBG practices, they said grading only on content and standards helps alleviate the disparities in students' home lives and is a step towards equity. These teachers do not assign graded homework. These teachers allow for late work without points deducted, grade on the 1–4-

point scale instead of the 0-100-point scale, and enable retakes to reassess student standards. Several teachers respond to only using formative assessments to inform students of their learning before the summative assessment, which is the final portion of their grade for a specific standard. The teachers in this theme focus on mastering content, represented by one teacher's statement, "Grades should not be tombstones."

Theme 2: With professional development or reviewing scholarly research

Thirty percent of survey participants responded their grading practices have developed over time. Some teachers base their grading practices on their own experiences as a student or from their mentor teachers during student teaching. Some teachers report their grading practices have derived strictly from district policy or Professional Learning Community deliberations. A few teachers describe their grading philosophies and procedures developed through research-backed techniques or what they have learned in their continuing education. Furthermore, Arkansas teachers evolved their grading practice over time through trial and error, reflection, and trying numerous practices until they found what they and the students liked. One educator notes Thomas Guskey's equity-based grading practices influencing his classroom and that "I think it has a positive effect on students' mindsets."

Theme 3: By adhering to what has always been done

Additionally, 16% of teachers describe their grading practices as a mixture of many aspects and what they believe to be essential. This "hodgepodge" (Brookhart, 1991) grading system varies, with some teachers differing in their grading practices drastically from one another even in the same school. Some use weights, total point systems, rubrics for half of the

assignments, or varying formative assessment weights depending on the department. The teachers in this group report considering content knowledge as well as factors such as effort, participation, and completion. Some teachers note the 0-100-point scale should continue to be used because that is traditional, "it's always been this way," and "it's what parents understand." One teacher even responding they grade, "However I want…my admin[istrator] has no idea or care how I grade."

Theme 4: By focusing on students' behaviors and futures

Lastly, 15% of educators report that their grading practices arise from a need to train the students. The training includes motivating student learning, disciplining classroom behaviors, or equipping students for the real world. These teachers aim to make the classroom as much of a real-life situation as possible to prepare students for later success. In addition, grades are a way to hold students accountable. Several teachers note that if students at least try in their course, they will pass because the effort is all it takes to do well in their class. Moreover, non-core teachers, in courses like PE, chorus, or art, respond they have to give grades on effort and participation because it's too difficult to grade aligned to just the standards.

Notable: Some equitable practices are accompanied by inequitable practices.

While we do not report this as a significant theme, nearly 12% of respondents claim to grade with equity yet state something in their response that is not a grading equity practice. For example, some teachers see homework as harmful to students yet weigh effort as a major component of the student's grades; some teachers don't "believe in grades" yet grade every task completed in the classroom by students; some teachers respond about the value of retakes, yet do

not let retakes replace prior grades on the standard. These survey respondents use some equity-based grading practices but still mix their practices with personal beliefs about grading or a "hodgepodge" (Brookhart, 1991) of grading criteria.

Interview Themes

Interviews with Arkansas educators were partially unscripted. We opened each interview by allowing each educator to describe their building's grading practices. After they were done, we asked follow-up questions about what they originally stated. We ended the interviews with specific, scripted questions that can be found in the appendix as Table 5a. As reflected below, five major themes emerged from interview conversations with Arkansas educators.

Theme 1: Changing grading practices is a slow process

Out of the 16 participants, 14 reported changing grading practices is a slow process. One educator noted since grading is personal and a reflection of a teacher's core beliefs, no changes can be implemented schoolwide until there are deeper conversations with individual teachers on what they are grading and why they are grading. Another educator highlighted the value of monthly faculty meetings where deep discussions about grading practices among faculty are a place for a teacher to have a "change of heart" when it comes to grading. Two educators noted the importance of meetings dedicated to grading practices to implement grading reform. Of the 14 educators, only one noted experience from changing the grading practices too quickly that caused a "riot" from the teachers. These fourteen educators believe if changes to the grading policies take place, it must start with the beliefs of teachers and occur slowly as a gradual shift.

Theme 2: Summative assessments are weighted more than formative assessments

Out of the 16 participants, 13 reported summative assessments are weighted more than formative assessments. The other three educators stated their summative assessments were weighted equally with formative assessments, that summative assessments should not carry the most weight in determining a final grade, or that summative assessments were weighted less than formative assessments. Collectively, the thirteen educators stated and restated the importance of formative assessments as opportunities for students to learn before the summative assessment. All allowed redoes and retakes on formative assessments because they valued capturing a student's current skills. The educators varied on if the new retake grade replaced the original grade or if it is averaged with the original grade. Three educators stated summative assessments could be retaken if the need was there, but almost all of the participants reported summative assessments could not be revisited after a unit was "past their current learning standards."

Theme 3: Intervention is used to reteach

A reoccurring theme that was not anticipated in the formation of scripted questions was the use of the intervention period. All of the participants noted the importance of the intervention period as a place to reteach and do retakes. The sample called their intervention a variety of different names, but stated the teachers identify which students need to be pulled to their intervention period to reengage with material. One educator highlighted the importance of the relationships their principal has with their students. The principal runs reports to find which students are at 65% or below for their final grade, calls them to their office, and intervenes with a conversation. All educators in the interviews seemed to value the intervention period as a way to reach students on content skills pertinent to success.

Theme 4: The gradebook should only be tied to standards

Educators varied on their level of implementation of Standards-Based Grading (SBG), but all detailed the importance of grades being tied to standards. One educator claimed there must always be two grades for standards per week, while another said sometimes two grades for two standards is too fast for the material. Three of the educators stated homework could be used by a teacher, but they do not grade it, or it goes in the gradebook as a zero-weighted score. One educator stated that communicating to parents about all grades only being standards was difficult at first because parents were unfamiliar with SBG, but once the parents got used to each grade only being a reflection of a standard concept, they appreciated it more than "hodgepodge" (Brookhart, 1991) grading.

Theme 5: The final grade still needs to incorporate a behavior component

Even through the commitment to grading reform all 16 educators displayed, six educators still reported the use of incorporating some level of student behavior into the final grade. One educator reported that teachers in their school still wished to include a behavior component in the final grade to impact students beyond just their mastery of standards. Another educator noted some of their teachers will never not factor in a students' behavior into their final grade. Moreover, a different educator noted that work ethic is the most important behavior for a student to show and it will be reflected in their final grade. One educator, however, described how frustrating it was to be in a building where grades were punitive and used as punishment, and wished for more grading consistency between the teachers.

V. Discussion

This case study examined self-reported grading practices among Arkansas teachers. Our sample included 506 teachers who completed a survey and 16 educators who participated in a voluntary interview. Our multivariate analysis identified statistically significant associations with teacher characteristics and their preferences of grading equity practices. We also report themes from how teachers develop their grading practices and what the current grading practices are in Arkansas's schools. We now discuss our findings in the context of policy suggestions and implementations to help lead more students to success.

Grading Practices in Arkansas

Through our Teachers' Grading Perceptions Survey and our interviews with educators, we find grading practices are inconsistent across the state. Our study examined which teacher characteristics were associated with preferences for grading equity practices. Four characteristics were found to be statistically significantly associated with favoring grading equity practices. After controls, we find teachers who are more liberal leaning prefer more grading equity practices. This could be due to the contrast in personal beliefs and values between liberal-leaning and conservative-leaning people (Swanson, 2000). This contrast could lead some educators to vary in their willingness to accept the norms of society, avoid blaming others for individual failures, and believing success or failure in life is often the result of large forces beyond individual's control (Brewer & Stonecash, 2015; Haskins, 2009).

After controls, we also find teachers with Master's Degrees are slightly more likely to favor grading equity practices compared to teachers with only Bachelor's Degrees. This finding is highlighted in prior research with teachers' grading pedagogies growing after more education

(Brookhart & Guskey, 2019; Olsen & Buchanan, 2019), and we also see this as a theme developed in qualitative remarks regarding how teachers develop their grading practices.

Additionally after controls, we find teachers instructing at the elementary level are slightly more likely to favor grading equity practices compared to teachers instructing at the secondary level. This finding could be due to the perception of high school teachers believing grading must be tough to equip students for the real world (Olsen & Buchanan, 2019), or this finding could reflect the possibility that elementary school teachers practice more SBG and grading equity techniques (Brookhart & Guskey, 2019).

Lastly, our quantitative analysis finds teachers of core content are slightly more likely to favor grading equity practices compared to teachers of noncore content. This finding could be due to noncore teachers not being as aligned to standards and grading on a "hodgepodge" of attitude, effort, and achievement (Brookhart, 1991).

Four major themes appeared when analyzing how Arkansas teachers have developed their current grading practices. Teachers developed their grading practices with an equity-based lens, after professional development, educational training, or personal research, by sticking with traditional grading methods, or numerating a behavior component for a student's well-being. Some teachers in our sample stated that students should only be graded on the content and that their home life should not affect their grade. These teachers appear to approach grading with equity as their main focus. Other teachers reported that their grading practices have evolved through professional development, continuing education, or personal research on best practices. Some teachers in our survey reported adhering to traditional grading practices and did not see a need for change. Lastly, some teachers developed their grading practices with an awareness of

the “real world” and the need to “prepare students for future jobs” by teaching them that their actions have consequences.

Five major themes appeared during the open-ended, semi-structed interviews with Arkansas educators. The educators noted that changing grading policies takes time, and no progress can be made without starting with the teachers’ beliefs. Additionally, this group of educators stated the importance of formative assessments as a place to practice their working knowledge towards standards so they can perform well on the highly-weighted summative assessments. Moreover, every respondent mentioned the importance of the intervention period as a place to reteach and complete retakes for class. All respondents also valued grades being tied to standards, even if their level of implementation of SBG varied. Notably, some interviewees still claimed a student’s final grade needed to include a behavior component.

Limitations

Our study is based on a voluntary sample of educators who participated in our survey and interviews. We are grateful for the insights provided by the teachers who completed the Arkansas Teachers’ Grading Perceptions survey and the educators who participated in the interviews. It is important to note, however, that our sample may not be representative of educators across the entire state of Arkansas and may not capture the full range of grading practices across different geographic regions.

This is a descriptive study, and we do not identify a causal relationship between our teacher characteristics and their preferences for grading equity practices. We conduct a multivariate linear regression to describe associations between teacher characteristics and how they feel about grading equity practices.

Overall, the quantitative and qualitative data analyzed are described as self-reported grading practices. As people participated in the survey or the interviews, data was collected through self-reports and not a direct observation of grading practices.

Future Research

Arkansas should consider data collection of grading practices across the entire state to get a complete picture of current grading techniques. An investigation should be completed to see if similar trends and associations appear in a complete data collection. This data collection process through surveys and interviews could help inform how Arkansas teachers can move towards fairer grading practices.

Policy Recommendations

Our study revealed that certain teacher demographics, such as those who hold liberal-leaning beliefs, teach at the elementary level, possess a Master's degree, or instruct core subjects, are more likely to view equitable grading practices favorably. These findings suggest that grading practices and their development may be influenced by personal beliefs held by teachers. Therefore, we recommend that district leaders examine current opportunities for teacher reflection on grading practices, to encourage a greater understanding and appreciation of equitable grading practices across all teacher demographics. As our interview results suggest, providing teachers with opportunities to reflect on the purposes of their grading and the reasons behind their practices is essential for more effective evaluations of students (Brookhart & Guskey, 2019; Stiggins et al., 1989).

Our results indicate that grading practices evolve through professional development, continuing education for higher degrees, or personal research, which is consistent with prior research (Brookhart & Guskey, 2019; Olsen & Buchanan, 2019). Researchers suggest the need

for professional development on grading practices is high, and ongoing supports need to be in place for teachers since teachers can have a wide-range of implementation of grading equity practices (Bonner, 2016; Guskey, 2009, Link, 2018, Sturgis & Casey, 2018; Tierney et al., 2011).

In order to ensure fairness and consistency for all student demographic and programmatic groups, school leaders should assess grading practices within their districts. By identifying and removing grading inequities across teachers, barriers to educational opportunities can be eliminated, ultimately enabling more students to achieve success. Taking this step towards eliminating grading disparities is one way to improve academic and social outcomes for students in Arkansas.

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Appendix

Table 1a: Teacher Survey Demographics

Race	*Frequency*	*Percent*
American Indian or Alaska Native	3	0.6
Asian	3	0.6
Black or African American	17	3.4
Hispanic	14	2.8
Other	7	1.4
Prefer not to say	21	4.2
White	441	87.2
Total	506	100

Gender	*Frequency*	*Percent*
Female	389	76.9
Male	104	20.6
Non-binary / other	2	0.4
Prefer not to say	11	2.2
Total	506	100

Grades Taught	*Frequency*	*Percent*
Kindergarten	53	3.3
1st	63	3.9
2nd	56	3.4
3rd	57	3.5
4th	66	4.1
5th	79	4.9
6th	83	5.1
7th	133	8.2
8th	147	9.0
9th	204	12.5
10th	228	14.0
11th	233	14.3
12th	225	13.8
Total	1,627*	100

Grades Taught Simplified	*Frequency*	*Percent*
Lower	88	17.4
Middle	150	29.6
Higher	268	53.0
Total	506	100.0

Table 1a: Teacher Survey Demographics cont.

Content Areas	*Frequency*	*Percent*
ELA	200	19.5
Math	179	17.5
Science	161	15.7
Social Studies	142	13.9
Special Education	78	7.6
English Language Learning	57	5.6
Gifted and Talented	20	2.0
Related Arts	29	2.8
Other	158	15.4
Total	1,024*	100
Core	353	69.8
Non-Core	165	32.6
Programmatic (Special Education, Gifted and Talented, or English Language Learning Courses)	118	23.3
Coach Indicator (previously or currently an athletic coach at their school)	123	24.3
Years of Teaching	*Frequency*	*Percent*
1	31	6.1
2	26	5.1
3	23	4.6
4	30	5.9
5	24	4.7
6	22	4.4
7	18	3.6
8	21	4.2
9	19	3.8
10	26	5.1
11	14	2.8
12	15	3.0
13	16	3.2
14	13	2.6
15	18	3.6
16	10	2.0
17	11	2.2

Table 1a: Teacher Survey Demographics cont.

18	9	1.8
19	8	1.6
20	15	3.0
21	11	2.2
22	10	2.0
23	18	3.6
24	14	2.8
25	12	2.4
26	6	1.2
27	10	2.0
28	10	2.0
29	10	2.0
30	7	1.4
31	3	0.6
32	4	0.8
33	4	0.8
34	5	1.0
35 plus	13	2.6
Total	506	100

Experience (Years of Teaching Simplified)	*Frequency*	*Percent*
Beginning	134	26.5
Middle	182	36.0
End	144	28.5
Extension	46	9.0
Total	506	100.0

Education	*Frequency*	*Percent*
Bachelor's	176	34.8
Master's	287	56.7
Professional	31	6.1
Doctorate (EdD or PhD)	12	2.4
Total	506	100

*Note: These totals differ from the 506 sample as some teachers report teaching more than one grade level and more than one subject.

Table 2a: Teachers' Grading Perceptions Survey

	Strongly Disagree, Disagree, Agree, Strongly Agree
Q1_1	Please indicate your level of agreement with each statement. The grades that I assign students reflect... - demonstration of content knowledge.
Q1_2	Please indicate your level of agreement with each statement. The grades that I assign students reflect... - level of work effort.
Q1_3	Please indicate your level of agreement with each statement. The grades that I assign students reflect... - attention to following directions.
Q1_4	Please indicate your level of agreement with each statement. The grades that I assign students reflect... - participation in class.
	Never, Rarely, Often, Always
Q2_1	How often do you as a teacher: - Offer retakes on assignments?
Q2_2	How often do you as a teacher: - Allow retakes on exams?
Q2_3	How often do you as a teacher: - Provide opportunities to give students extra credit?
	Strongly Disagree, Disagree, Agree, Strongly Agree
Q3_1	Please indicate your level of agreement with each statement. - Extra credit should not be offered or awarded in courses
Q3_2	Please indicate your level of agreement with each statement. - Points should not be deducted from work submitted late
Q3_3	Please indicate your level of agreement with each statement. - Retakes should be available to students after receiving additional support and reteaching
Q3_4	Please indicate your level of agreement with each statement. - Retakes should be available to any student on any assignment
Q3_5	Please indicate your level of agreement with each statement. - Retake scores should replace previous scores
Q3_6	Please indicate your level of agreement with each statement. - All assignments and grades should be explicitly linked to a standard *Strongly Disagree, Disagree, Agree, Strongly Agree*
Q3_7	Please indicate your level of agreement with each statement. - Non-academic performance (behavior, participation, etc.) should not be included in final grades
Q3_8	Please indicate your level of agreement with each statement. - If homework is assigned, it should not be recorded as a grade
Q3_9	Please indicate your level of agreement with each statement. - Grades should only reflect a student's level of academic performance
Q3_10	Please indicate your level of agreement with each statement. - The final grade should reflect a student's content mastery
Q3_11	Please indicate your level of agreement with each statement. - A 0-4 scale for grades is more mathematically sound than the 0-100-point scale *0-100 slider*
Q4_1	In general, what percentage of students in your class receive ____ as their final grades: - A's
Q4_2	In general, what percentage of students in your class receive ____ as their final grades: - B's
Q4_3	In general, what percentage of students in your class receive ____ as their final grades: - C's
Q4_4	In general, what percentage of students in your class receive ____ as their final grades: - D's
Q4_5	In general, what percentage of students in your class receive ____ as their final grades: - F's
	0-100 slider

Table 2a: Teachers' Grading Perceptions Survey cont.

Q5_1	How many points out of 100 would you typically deduct for student work that is ... - turned in a day late?
Q5_2	How many points out of 100 would you typically deduct for student work that is ... - turned in a week late?
Q5_3	How many points out of 100 would you typically deduct for student work that is ... - turned in a month late?
Q5_4	How many points out of 100 would you typically deduct for student work that is ... - never submitted? *0-100 empty box*
Q6_1	In your class, what portion of a student's final grade is based on: - Participation/Attendance
Q6_2	In your class, what portion of a student's final grade is based on: - Behavior/Attitude
Q6_3	In your class, what portion of a student's final grade is based on: - Homework
Q6_4	In your class, what portion of a student's final grade is based on: - Daily Assignments/In-Class Assignments
Q6_5	In your class, what portion of a student's final grade is based on: - Essays
Q6_6	In your class, what portion of a student's final grade is based on: - Quizzes
Q6_7	In your class, what portion of a student's final grade is based on: - Tests
Q6_8	In your class, what portion of a student's final grade is based on: - Projects
Q6_9	In your class, what portion of a student's final grade is based on: - Final Exam
Q6_10	In your class, what portion of a student's final grade is based on: - Other
Q6_10_T	In your class, what portion of a student's final grade is based on: - Other - Text
	Strongly Disagree, Disagree, Agree, Strongly Agree
Q7_1	Please indicate your level of agreement with each statement. - I discipline myself to make the best use of my time doing meaningful things
Q7_2	Please indicate your level of agreement with each statement. - When I am responsible for something, I always find ways to get it done even without the necessary resources and help
Q7_3	Please indicate your level of agreement with each statement. - I am conscientious in whatever I do, big or small
Q7_4	Please indicate your level of agreement with each statement. - Even in difficult circumstances, I still choose to do what is right rather than what is expedient *Never, Rarely, Sometimes, Often*
Q8_1	How often do you feel: - Pressure from leadership to adjust students' grades
Q8_2	How often do you feel: - Pressure from parents to adjust students' grades
	Strongly Disagree, Disagree, Agree, Strongly Agree
Q9_1	Please indicate your level of agreement with each statement. - My students have the resources they need to complete assigned homework from my class
Q9_2	Please indicate your level of agreement with each statement. - My experiences as a student affected my current grading practices
Q9_3	Please indicate your level of agreement with each statement. - I have concerns about the grades students are receiving in other teachers' classes *Yes, No, I don't know*
Q10	The school where I teach has a written policy about grading.
	Empty paragraph box
Q11	Describe how you developed your grading practices:
	Male, Female, Non-Binary/other, Prefer not to say

Table 2a: Teachers' Grading Perceptions Survey cont.

Q12	What is your gender?
	American Indian or Alaska Native, Asian, Black or African American, Hispanic, Native American or Pacific Islander, White, Other, Prefer not to say
Q13	What is your race/ethnicity?
	K-12 boxes
Q14	What grade(s) do you currently teach? Select all that apply
	ELA, Math, Science, Social Studies, Special Education, English Language Learning, Gifted and Talented, Related Arts, Other text box
Q15	What content areas do you currently teach? Select all that apply - Selected Choice
Q15_T	What content areas do you currently teach? Select all that apply - Other - Text
	Yes, No
Q16	Are you currently, or have you ever been, the coach of an athletic team at a school?
	1-35+ box
Q17	Including this school year, how many years have you been teaching?
	Bachelor's Degree, Master's Degree, Specialist Degree, Doctorate Degree
Q18	What is the highest degree of education you have completed?
	1—Not at all "liberal", 7—Completely "liberal"
Q19_1	To what degree to you identify as: - "Liberal" in regard to your social political views?
Q19_2	To what degree to you identify as: - "Liberal" in regard to your fiscal political views?

Table 3a: Grading Equity Scale

Item Code	Question	Original Alpha	Final Alpha
q1_1n	Please indicate your level of agreement with each statement. The grades that I assign students reflect... - demonstration of content knowledge.	0.79	deleted
q1_rev2n	Please indicate your level of agreement with each statement. The grades that I assign students reflect... - level of work effort.	0.77	0.83
q1_rev3n	Please indicate your level of agreement with each statement. The grades that I assign students reflect... - attention to following directions.	0.77	0.82
q1_rev4n	Please indicate your level of agreement with each statement. The grades that I assign students reflect... - participation in class.	0.76	0.82
q3_1n	Please indicate your level of agreement with each statement. - Extra credit should not be offered or awarded in courses	0.79	deleted
q3_2n	Please indicate your level of agreement with each statement. - Points should not be deducted from work submitted late	0.75	0.81
q3_3n	Please indicate your level of agreement with each statement. - Retakes should be available to students after receiving additional support and reteaching	0.76	0.81
q3_4n	Please indicate your level of agreement with each statement. - Retakes should be available to any student on any assignment	0.76	0.81
q3_5n	Please indicate your level of agreement with each statement. - Retake scores should replace previous scores	0.76	0.81
q3_6n	Please indicate your level of agreement with each statement. - All assignments and grades should be explicitly linked to a standard	0.76	0.82
q3_7n	Please indicate your level of agreement with each statement. - Non-academic performance (behavior, participation, etc.) should not be included in final grades	0.76	0.82
q3_8n	Please indicate your level of agreement with each statement. - If homework is assigned, it should not be recorded as a grade	0.75	0.82
q3_9n	Please indicate your level of agreement with each statement. - Grades should only reflect a student's level of academic performance	0.75	0.82
q3_10n	Please indicate your level of agreement with each statement. - The final grade should reflect a student's content mastery	0.76	0.82
q3_11n	Please indicate your level of agreement with each statement. - A 0-4 scale for grades is more mathematically sound than the 0-100-point scale	0.75	0.81

q2_1n	How often do you as a teacher: - Offer retakes on assignments?	-	0.82
q2_2n	How often do you as a teacher: - Allow retakes on exams?	-	0.81
latework	How many points out of 100 would you typically deduct for student work that is: turned in a day late, turned in a week late, turned in a month late?	-	0.82
test scale		0.77	0.83

Table 3b: Original 15-item grading equity scale and alpha coefficients

Item	item-test correlation	item-rest correlation	average interitem covariance	alpha
q1_1n	0.12	0.02	0.02	0.79
rev2n	0.40	0.29	0.01	0.77
rev3n	0.44	0.34	0.01	0.77
rev4n	0.46	0.35	0.01	0.76
q3_1n	0.27	0.13	0.02	0.79
q3_2n	0.61	0.51	0.01	0.75
q3_3n	0.51	0.43	0.01	0.76
q3_4n	0.56	0.44	0.01	0.76
q3_5n	0.50	0.40	0.01	0.76
q3_6n	0.51	0.39	0.01	0.76
q3_7n	0.56	0.44	0.01	0.76
q3_8n	0.57	0.46	0.01	0.75
q3_9n	0.64	0.54	0.01	0.75
q3_10n	0.54	0.47	0.01	0.76
q3_11n	0.60	0.47	0.01	0.75
Test scale			0.01	0.77

Table 3c: Final 16-item grading equity scale and alpha coefficients

Item	item-test correlation	item-rest correlation	average interitem covariance	alpha
rev2n	0.37	0.28	0.020	0.83
rev3n	0.44	0.35	0.020	0.82
rev4n	0.43	0.33	0.020	0.82
q3_2n	0.62	0.53	0.018	0.81
q3_3n	0.60	0.53	0.019	0.81
q3_4n	0.66	0.58	0.018	0.81
q3_5n	0.57	0.50	0.019	0.81
q3_6n	0.44	0.34	0.019	0.82
q3_7n	0.51	0.40	0.019	0.82
q3_8n	0.55	0.45	0.019	0.82
q3_9n	0.56	0.47	0.019	0.82
q3_10n	0.48	0.41	0.020	0.82
q3_11n	0.58	0.48	0.018	0.81
q2_1n	0.54	0.46	0.019	0.82
q2_2n	0.61	0.51	0.018	0.81
latework	0.51	0.38	0.018	0.82
Test scale			0.019	0.83

Note: “latework” is binary indicator of teachers that deduct zero points for late work

Table 4a: Teachers' grading perceptions regression for teacher demographics on grading equity practices.

	Coef.	Std. Err.
responsibility	0.00	0.04
liberal	0.09***	0.02
gendersex	0.00	0.01
Race		
American Indian	0.02	0.05
Asian	-0.12***	0.04
Black	-0.01	0.03
Hispanic	0.02	0.03
Other	0.00	0.04
Prefer not to say	0.00	0.03
Degree		
Doctorate	0.07	0.06
Master's	0.04***	0.01
Professional	0.04	0.03
Teaching Career		
Beginning	0.01	0.02
Extension	0.00	0.02
Middle	0.00	0.02
Content		
Programmatic	0.01	0.02
Noncore	-0.03*	0.02
Grade Level		
Higher	-0.06**	0.03
Middle	-0.01	0.02
Coach	-0.01	0.02
School Level Fixed Effects		
Constant	0.52	0.04
N	506	
r^2	0.444	

*** p < 0.01, ** p < 0.05, * p < 0.1

Table 5a: Partially scripted questions for 2023 case study interviews with educators

1.	When referring to practices of ninth grade teachers:
2.	Do any of your teachers use a 50 as the minimum grade instead of putting in a zero in the grade book?
3.	Do any of your teachers use a 0–4-point scale instead of the traditional 0-100-point scale?
4.	How do your teachers handle extra credit opportunities?
5.	Are points deducted when work is submitted late?
6.	Are retakes always available for any student?
7.	Do retake scores replace the previous score completely?
8.	Are homework grades averaged into the final grade?
9.	What are the weights of summative assessments for your students' overall grades?
10.	Are all assignments explicitly linked to a standard in their classes?
11.	Are soft skills included in the grades—ex: behavior, participation, compliance, etc.
12.	Product (academic achievements), Process (compliance with class procedures), Progress (value-added, effort, outstanding progress)—do you see a future of report cards comprised of the three P's?
13.	How does your school building respond to refusal to complete work?
14.	What are your building's reteaching opportunities?