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Sponsorship and Appreciation

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Ratings and Rankings: The Illusions of Student Measurement without Context

Ken Mitchell, EdD
Editor

AASA Journal of Scholarship and Practice

Americans like to rank. We like standings. We assign scores - numerical ones - to sort and select our favorites, best, and worst. We make decisions based on polls that rank songs, movies, restaurants, places to live or retire, and colleges to attend.

We like to keep score, even though how we measure often fails to reveal truths about the quality of the rating. We want to believe in what the numbers seem to tell us about who is at the top or bottom. We also like to rank our students and our schools. High schools use complex formulae to identify valedictorians, at times separating the top-ranking student whose “GPA” was .001 higher than the salutatorian and others in the “top” ten and even beyond.

The U.S. News and World Report produces an annual list of “the best high schools” in America. *The Princeton Review* ranks colleges according to multiple categories and makes money selling their annually revised guides to prospective applicants and their anxious parents. Of course, there are international education rankings such as PISA and TIMMS, and web-based ratings, including niche.com and greatschools.org. Indeed, we like to rate and rank.

The media, hence, the public, trust such ratings and rankings. Yet, how often do they question and probe for deeper meaning? By what measures were the scores determined? Who created the measures? Were they tested for validity and reliability? (Does anyone care?) Were they designed for efficiency of administration or determining depth of understanding? How does the use of the results have consequences for those rated and ranked?

And it is not just those viewing schools from the outside who fail to question. Busy school officials rely on policymakers’ expertise in deciding what’s best to determine how well students and schools are performing. They assume the selected assessments will reveal precise and accurate results that are used to provide narratives about our schools and educators.

In describing how numbers are used to tell such stories, Stone (2021) warns, “How we count makes all the difference—and therein sleeps a giant conundrum. We want to believe numbers are objective, yet we know statistics can lie” (p. 9). And with such lies come consequences: “I am asking that while we count, we think about the good or the damage

that our numbers could do. Our numbers will serve us better if we reflect on how we arrive at them as carefully as we hope others do when they make judgments about us” (p. 31).

Our students and systems are judged. Time and money are invested. Profits are made. Lives are altered. Arguably when a system has narrowed its priorities to raise test scores, other learning opportunities are abandoned. Untapped talents and creativity are lost in a race to rise in the rankings. Tienken (2016) described the influence of high stakes testing in accountability policy:

The commercially prepared standardized test is the centerpiece and chief monitoring tool in all accountability schemes based on instrumental use theories and the tool de jure for all NCLB waivers. The faith placed in the reliability and validity the results by policymakers, bureaucrats, and some educators and members of the public underscores the significant position the tests occupy in the policymaking arena and the trust placed in their meaningfulness (p. 164).

In my recent work with graduate students seeking their school leadership credentials or conducting doctoral research, I am encountering a generation of current and emerging leaders, some of whom have accepted and even embraced the legitimacy of these ratings and rankings. They tout their school’s or system’s success in raising test scores or evaluating teachers with a values-added measurement model.

Many, thankfully not all, lead schools or systems with a view of assessment that fails to challenge the ways, means, and

consequences of the data generated. To many of them, data *are* standardized test scores, and their work with such data is supported by an array of tools, texts, and practices happily supplied by a thriving industry. Too many of today’s leaders trust a system that is all they have ever known.

Yet, researchers have determined that accountability systems have contributed to a pedagogical regression in which teachers, influenced by policy and their supervisors, have retreated to traditional over innovative instruction. Plank and Condliffe (2013) reported, “the results of the study suggest that accountability pressures may undermine these efforts since they may unintentionally encourage educators to use more teacher-centered pedagogical style and do not reward higher-order thinking” (p. 27).

Whole systems have narrowed their instructional focus to raise test scores, eliminating programs in the arts. Belville (2018) found that between 2008-12, following the implementation of RTTT, there was a significant reduction—one third—of K-5 arts education classes and staffing across the U.S. The same researchers reported that by 2015 only a quarter of African American students had access to arts classes.

Measurement without Context

There is a lost generation of school leaders whose students would benefit from a reexamination and recalibration of how school systems collect student performance data.

What are the stories behind the numbers that might reveal what they really mean? How do the details behind the stories help us to better understand the root causes of learner struggles and failures in and out of the classroom?

Stories are important. They help us get at the truth through a better understanding of context and influencing variables. Measurement without context will produce illusions of success as well as failure, contributing to a continuation of cycles of blame and regressive pedagogy.

Meier and Knoester (2017) warn that “[standardized tests] impossibly reduce a fundamentally complex and mysterious problem - how to assess the knowledge (and/or skills, experiences, and dispositions) of a child - to a simple test score” (p. 9).

We cannot get around the reality that we live in a time when a number provides a quick answer about quality. There is an efficiency in getting a score. Skepticism arises when all we have are stories.

Astrophysicist Carl Sagan (1997) wrote, “If you know a thing only qualitatively, you know it no more than vaguely. If you know it quantitatively - grasping some numerical measure that distinguishes it from an infinite number of other possibilities - you are beginning to know it deeply. You comprehend some of its beauty and you gain access to its power and the understanding it provides” (p. 25).

And so it is with our learners. It is unlikely that our policymakers will relinquish their affinity to rate and rank our public schools and students with numbers. However, if we want to ensure that we have the most accurate information about our learners and the systems that support their learning, we need to use ways to get under the numbers. We need to understand the whole story to get to the root causes of their learning struggles.

There are ways to get there, and thoughtful educators have understood this for generations. In their seminal work, Black, Harrison, Lee, Marshall, and Wiliam (2004), offered:

“Overall the main ideas for improvement of feedback can be summarized as follows:

- Written tasks, alongside oral questioning, should encourage students to develop and show understanding of the key features of what they have learned.
- Comments should identify what has been done well and what still needs improvement and give guidance on how to make that improvement.
- Opportunities for students to respond to comments should be planned as part of the overall learning process.

The central point here is, that to be effective, feedback should cause thinking to take place. The implementation of such reforms can change both teachers’ and students’ attitudes toward written work: the assessment of students’ work will be seen less as a competitive and summative judgment and more as a distinctive step in the process of learning” (p. 14).

Today’s district mission statements encourage educators to develop collaborative learners to think critically so they can be innovative problem solvers for the challenges of the 21st century. Yet, our assessment systems are designed to foster competition via

mechanisms to collect data with efficiency to generate numbers to make it easy for us to score, sort, select, and sometimes stigmatize.

Too often how we design and implement assessment of learning fails to match our rhetoric about mission.

Perspectives for Recalibration

The contributors to the Winter 2022 issue of the *JSP* offer alternative measures to get to the stories behind the numbers. The issue begins with a piece by Tom Guskey and Laura Link, “Feedback for Teachers: What Evidence Do Teachers Find Most Useful?” which, consistent with the researcher’s significant body of contributions to this topic, provides evidence to support the benefits of mastery learning as a means to higher levels of achievement and student confidence levels than traditional approaches.

The issue includes a study of competency-based education (CBE) conducted by a team of researchers from the Universities of North and South Dakota: “Transitioning from a Traditional Educational Model to a Competency-Based Educational Model: Lessons Learned from Administrators Flaws in the Traditional Education System.”

The study found that the Carnegie Unit remains the focal point of American Education which spans from elementary school to graduate school, and they cited CBE as an effective instructional alternative. The

researchers offer superintendents guidance in making the transition to a competency-based model.

Finally, Luke Green, a doctoral researcher, challenges the use of grade point averages in “[GPA] in, [GPA] out: Uncovering Inequity and Flaws in Grading Policies.”

Describing the negative effects and inequities in GPA-oriented grading policies, he encourages school leaders to engage their students: “Simply ask any student (as most have been burned by grading policy at some point) an example of what they feel is unfair or unhelpful about the ways that they are assessed.

The willingness to fully listen to their experiences unfortunately does not always materialize, as legitimate grievances are quickly dismissed by administrators and faculty.” Green promotes the importance of learning the stories beneath the numbers.

American educators have learned so much about effective assessment for improving student learning but have been bridled by accountability models designed for efficiencies—time and money—and corrupted by a culture seduced by the illusions of ratings and rankings.

The authors in the Winter 2022 volume of the *AASA Journal of Scholarship & Practice* make their contributions to a reexamination and recalibration of the current state of assessment.

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Feedback for Teachers: What Evidence Do Teachers Find Most Useful?

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Abstract

The purpose of this exploratory, descriptive study was to investigate teachers' perceptions of three types of feedback on students' performance to guide instructional improvements. These include: (1) formative assessment error analyses, (2) mastery charts of class progress on formative assessments, and (3) summative assessment results comparisons with previously taught classes. Self-report survey data from 92, K-12 teachers involved in a pilot mastery learning program revealed that analyses of students' errors on formative assessments were consistently rated the most useful in planning corrective instruction and in making instructional improvements. Mastery charts and summative assessment results were considered more useful in evaluating the overall effectiveness of mastery learning and in revising implementation procedures. Implications for professional learning and program implementation are discussed.

Keywords

mastery learning, formative assessment, teacher feedback, instructional improvement

Over the past half century in education, few programs have been implemented as broadly or evaluated as thoroughly as those associated with mastery learning. The principles of mastery learning can be found today in classrooms in nations throughout the world and at every level of education. When compared to traditionally taught classes, research shows that students in mastery learning classes consistently reach higher levels of achievement and develop greater confidence in themselves as learners (Anderson, 1994; Guskey & Pigott, 1988; Klecker & Chapman, 2008; Kulik, Kulik, & Bangert-Drowns, 1990a; Miles, 2010).

Developed by Benjamin S. Bloom (1968), a central feature of mastery learning is the use of regular formative assessments to provide students with essential feedback on their learning progress. When this feedback is paired with specific corrective activities designed to help students remedy their learning errors, Bloom believed that nearly all students could reach a high level of achievement and gain the many positive benefits of learning success.

Although extensive research has been conducted on the effectiveness of various forms of feedback to students from formative assessments (see Hattie & Timperley, 2007; Lipnevich & Smith, 2019; McMillan, 2007), few investigations have considered how teachers can best use those same results to guide improvements in their teaching.

The purpose of this study was to investigate teachers' perceptions of three different sources of evidence on students' performance in mastery learning classrooms to guide improvements in their instructional strategies. These sources of evidence include: (1) formative assessment error analyses, (2) mastery charts of class progress on formative

assessments across multiple instructional units, and (3) summative assessment results comparisons with previously taught classes. We sought to determine teachers' judgments of the usefulness of each of these forms of feedback, teachers' perceptions of how helpful each is in guiding improvements in current instructional practices, and the influence of each in sustaining teachers' implementation of mastery learning strategies.

Theoretical Framework

To implement the mastery learning instructional process originally described by Benjamin S. Bloom (1968, 1971a), teachers first organize the concepts and skills they want students to learn into learning units that typically involve about a week or two of instructional time. Following initial instruction on each unit, teachers administer a brief assessment based on the unit's learning goals. Instead of signifying the end of learning in the unit, however, this assessment's purpose is to provide students and teachers with "feedback" on learning progress. To emphasize this purpose, Bloom suggested calling it a *formative assessment*, a term originated by Michael Scriven (1967) to describe different types of program evaluation. Formative assessments identify for students and teachers precisely what was learned well and where improvements are needed (Bloom, Hastings, & Madaus, 1971; Bloom, Madaus, & Hastings, 1981).

Paired with each formative assessment are specific "corrective" activities for students to use to remedy their learning difficulties. Rather than simply repeating the activities from the initial instruction, correctives offer students a new and different approach to learning. Specifically, correctives are designed to present the unit's concepts and skills in a new and different way and engage students in a different manner. Most teachers match these correctives

to each item, group of items, or set of prompts within the assessment so that students need work on only those concepts or skills not yet mastered. In this way, the correctives are “individualized” and “personalized.” They may point out additional sources of information on a particular concept, identify alternative learning resources such as digital learning activities, alternative materials, or web-based instructional materials (DeWeese & Randolph, 2011), or suggest sources of additional practice, such as computer exercises, independent or guided practice, or collaborative group activities.

With the feedback and corrective information gained from the formative assessment, each student has a detailed prescription of what more needs to be done to master the concepts and skills from the unit. This “just-in-time” correction prevents minor learning difficulties from accumulating and becoming major learning problems. It also gives teachers a practical means to vary and differentiate their instruction in order to better meet students’ individual learning needs (Guskey, 1997).

When students complete their corrective work after a class period or two, they take a *second* formative assessment that covers the same concepts and skills as the first but is composed of slightly different problems or questions. This second, “parallel” assessment serves two important purposes. First, it verifies whether the corrective activities were successful in helping students overcome their individual learning difficulties. Second, it offers students a second chance at success and, hence, has powerful motivational value (Changeiywo, Wambugu, & Wachanga, 2011).

To ensure the continued learning progress of students who perform well on the first formative assessment and have no need of

corrective work, Bloom recommended that teachers provide special “enrichment” or “extension” activities to broaden these students’ learning experiences. Enrichment activities are typically self-selected by students and might involve special projects or reports, digital academic games, or any variety of complex but highly engaging problem-solving tasks.

An equally important but often neglected use of formative assessments is the feedback they offer teachers. Formative classroom assessments provide teachers with targeted feedback on the effectiveness of their initial instruction. Students’ responses to items, groups of items, or sets of prompts within the assessments yield valuable information about how well the teachers’ instructional activities and practices helped students achieve specific learning goals. Although this source of teacher feedback is generally recognized, little is known about what types of analyses of formative assessment results are most useful to teachers and to what extent this feedback actually prompts specific changes in teachers’ instructional practices during planned corrective activities or in future instructional tasks.

Methods

Data sources and evidence

The study involved 92 K-12 teachers from a medium size (7,400 students), suburban school district in a Midwest state. The racial composition of the district’s students includes 87% white, 4% African American, 3% Hispanic or Latino, 4% Asian, and 3% mixed race. English is the primary language in 94% of students’ households and only 6% of students’ households have incomes below the poverty level.

All of the teachers included in the study volunteered to take part in a pilot program that involved participating in a one-day professional

learning session on mastery learning instructional strategies. In addition, all participating teachers agreed to implement mastery learning strategies in at least three instructional units during the 2018-19 academic year. Implementing mastery learning involved administering classroom formative assessments after each instructional unit that address the

unit's learning goals, engaging students in specific corrective and enrichment activities, and following with a second, parallel formative assessment for students who did not initially achieve the mastery standard. Tables 1 and 2 describe the grade level and subject area assignments of these 92 teachers.

Table 1

Sample Teachers by Grade Level (n = 92) and Those Who Had Comparable Summative Assessment Data from the Previous Year (n = 75)

Grade Level	Number of Teachers	
	2018	2019
K-2	19	23
3-5	23	27
6-8	15	16
9-12	18	26
Total	75	92

Table 2

Sample Teachers by Subject Area Focus (n = 92)

Subject Area	Number of Teachers
Language Arts	12
Mathematics	53
Science	6
Social Studies	7
Foreign Language	10
Art	2
Business	2
Total	92

Although required to implement mastery learning in only three instructional units, most teachers chose to use the strategies in far more. As Table 3 shows, participating

teachers typically implemented mastery learning strategies in 8 to 10 instructional units, or between 65% and 85% of the units they taught during the academic term.

Table 3

Units Taught Using Mastery Learning and Students Involved Per Teacher by School Level (n = 92)

Grade	Units Taught		ML Units		% ML Units	No. of Students	
	X	(sd)	X	(sd)		X	(sd)
K-2	13.78	(3.91)	9.04	(3.59)	65.6	21.26	(1.71)
3-5	12.33	(4.83)	10.81	(5.59)	87.7	24.26	(3.61)
6-8	9.75	(4.17)	7.94	(4.74)	81.4	70.13	(41.89)
9-12	12.69	(4.81)	9.73	(5.61)	76.67	84.54	(47.36)

All participating teachers were asked to record three types of evidence on results from their students. The first was a tally of students' errors on each formative assessment. To do this, teachers simply recorded a count of how many students answered each item or prompt

incorrectly on the assessment, making special note of those items or prompts missed by 1/3 or more students in each class. An example is shown in Figure 1. This record was to be used both to direct corrective activities and to plan instructional revisions.

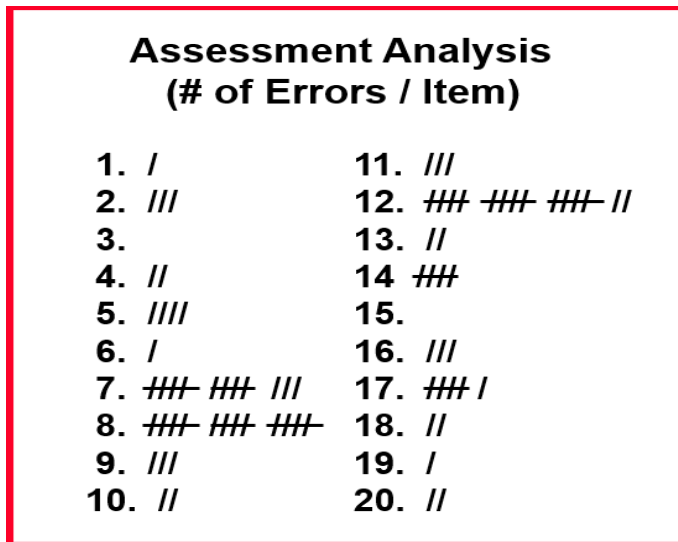


Figure 1. Example of formative assessment error analysis.

As can be seen from the data displayed in Figure 1, most students did fairly well and answered items 1 through 6 correctly. However, items 7 and 8 were answered incorrectly by large numbers of students in the class, 13 and 15, respectively. Similarly, 17 students answered item 12 incorrectly. Such large numbers of incorrect responses indicate clear trouble spots.

It could be, for example, that these are poorly functioning items. Perhaps they are unclearly stated or ambiguously worded. Maybe they are misleading or mis-keyed. If inspection of the formative assessment indicates such possible item flaws, these need to be corrected by the teacher.

If careful examination of the assessment reveals no problems with the items, however, then clearly the instructional activities the teacher used to help students achieve the learning goals assessed by these items were

ineffective for most students. Such evidence indicates those activities need to be reviewed and either revised or replaced by another, potentially more effective approach or activity.

The second type of evidence on student results that teachers were asked to record was a mastery chart for each class on which the teacher recorded the percent of students in the class who achieved the mastery standard on each of the formative assessments across multiple units. An example is illustrated in Figure 2. Ideally the chart showed the vast majority of students achieving the mastery standard of performance on the second formative assessment in each unit and more students attaining mastery on the first formative assessment as units progressed. This chart reveals the effectiveness of the corrective activities in helping students achieve the mastery standard and shows if students are increasingly prepared to do well in new learning units.

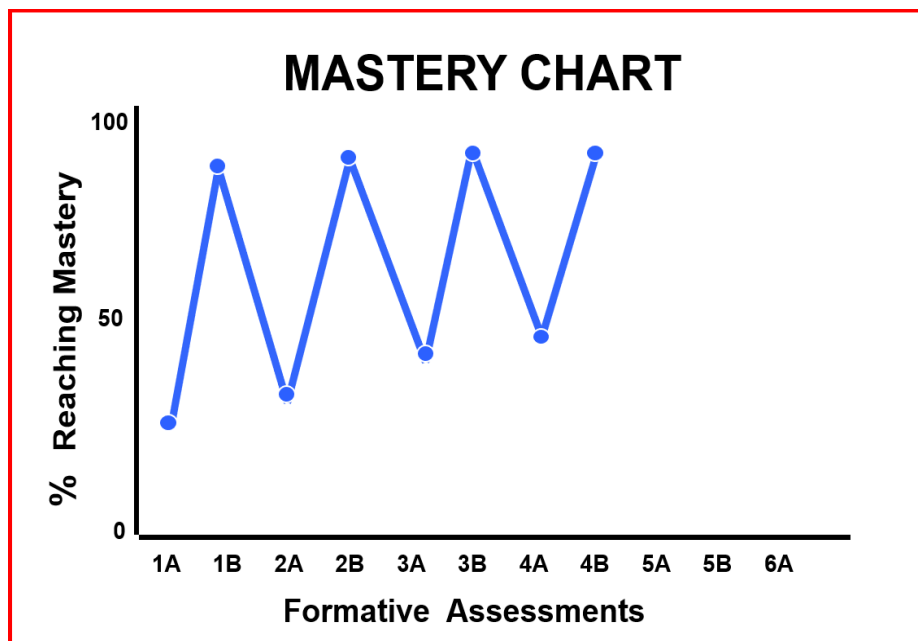


Figure 2. Example of a mastery chart plotting formative assessment results.

For example, not having the majority of students attain the mastery standard on the second formative assessment would be a clear sign of implementation difficulties. It may be the corrective activities planned by the teacher were not effective in helping students remedy their learning problems and alternative strategies need to be planned. Perhaps students did not fully engage in the corrective process, and the teacher needs to provide more direct and structured guidance when students are engaged in corrective work.

Likewise, if an increasing number of students are not attaining the mastery level of performance on the first formative assessment over subsequent units, some change in implementation is needed. Maybe students need additional guidance in preparing for formative assessments. Perhaps they see enrichment activities as simply more work and lack any incentive to do well. Whatever the

case, some change in the teacher's approach to implementing mastery learning needs to be altered.

The third type of evidence on student results that teachers gathered was summative assessment results. After a series of instructional units, teachers administered cumulative, summative assessments to students, primarily for the purpose of determining students' class or course grades. Teachers who had taught in the district for two or more years ($n = 75$) were asked to use the same summative assessment they had used the year before. These teachers then compared the grade distributions of students in this year's mastery learning class with that of students in their previous year's classes. This comparison was used to judge the overall effectiveness of mastery learning strategies. Table 4 shows a summary of these comparisons by grade level group.

Table 4

Average Summative Assessment Grades by School Level (n = 75)

Grade Level	Average Summative Grades		
	2018 G ₁₈ (S ₁₈)*	2019 G ₁₉ (S ₁₉)*	Difference G _{Diff}
K-2	3.60 (0.33)	3.60 (0.28)	0.00
3-5	3.29 (0.49)	3.56 (0.40)	0.27
6-8	2.75 (0.61)	2.89 (0.67)	0.14
9-12	2.53 (0.76)	2.67 (0.78)	0.14
Total	3.08	3.19	0.11

Sample teachers thus had three types of assessment feedback based on students' results to use in evaluating the quality of their instruction and planning instructional revisions. These included (1) formative assessment error analyses, (2) formative assessment success across units, and (3) improvements in summative assessment results.

Instruments

All teachers involved in the pilot program were administered the *Mastery Learning Assessment Results Survey*. The survey, developed by the researchers, consisted of 12 selected-response items and three open-ended response items addressing the three types of feedback. For each feedback type, teachers were asked if the assessment results were surprising or pretty much as expected, how informative the results were in providing insights into the effectiveness of their instruction, and how useful the results were in planning instructional improvements. The open-ended items asked teachers for their suggestions about what adaptations they would recommend and what other types of information would be helpful to them in making improvements in their instruction.

The specific research questions this study sought to answer included:

1. How accurate were teachers' predictions of formative assessment results?
2. How meaningful and useful did teachers find these different types of feedback to be in planning instructional revisions?
3. What types of information (feedback) would teachers find most helpful in making improvements in their instruction?

Responses to the selected-response items in the survey yielded an internal reliability coefficient (α) of .76. All responses were recorded anonymously, and no personal identifiers were included. Proper permissions to conduct the survey research from a university Institutional Review Board were secured.

Results

Descriptive analyses of response patterns to the selected-response items yielded several interesting findings. Content analyses of open-ended items yield further insights into teachers' responses. In addition, descriptive analyses to explore differences in response patterns among teachers at different grade levels and in different subject areas revealed surprising consistency in teachers' responses regarding the usefulness of all three types of feedback information.

The one grade level difference identified in initial descriptive analyses was that elementary teachers were generally more accurate in predicting their students' performance on formative assessments than were middle school and high school level teachers. It is suspected this may be due to differences in teaching context. The elementary teachers in the sample teach mostly in self-contained classrooms where they see fewer students for longer periods of time each day than do middle or high school teachers. This allows elementary teachers to have more extended and more personalized interactions with their students and to observe individual students' performance in learning situations more frequently. These extended interactions are likely to provide elementary teachers with deeper and more detailed information upon which to anticipate their students' performance.

Regarding the different types of feedback, teachers at all levels consistently

rated the tallies of student errors on individual formative assessments as the most meaningful and most useful form of feedback in planning corrective instruction and in making instructional revisions. The detail of the information provided by these item-by-item; formative assessment results provided teachers with highly specific data based on their students' performance. With these data, teachers could determine precisely which concepts and skills had been taught and learned well, and which required a different approach. The mastery charts and summative assessment results looked at student performance on a more general basis. The teachers involved in this investigation considered that information more useful in evaluating the overall effectiveness of mastery learning and making changes in implementation procedures.

When asked about ways to improve the quality and utility of feedback from students' formative assessment results, teachers most frequently noted two factors. First was the provision of more time to develop common formative assessments both to improve the quality of the assessments and to make better use of colleagues' expertise in developing instructional alternatives for the corrective process. Second was stronger leadership, especially from building principals, to ensure greater consistency among teachers in establishing mastery level criteria for the formative assessments. Although teachers at all levels expressed satisfaction with the improvements they saw in their students' performance as a result of implementing mastery learning, many indicated that stronger administrative support and more guidance from school leaders would help them achieve greater consistency in their implementation efforts. Several noted that increased time and opportunity for collaboration with teaching colleagues would also assist in their improvement efforts.

Limitations

Because the sample of teachers involved in this study was drawn from a single school district, results may not be generalizable to districts with different demographics and different student populations. In addition, all of the teachers in the sample volunteered to participate in the mastery learning pilot program, which involved additional work and effort that they were willing to take on. Hence, their responses may not be comparable to teachers who chose not to volunteer. Finally, the data gathered in this study were based on self-reports by participating teachers, which may be subject to various forms of self-reporting bias. These characteristics of the sample and the data gathered limit generalizability of results beyond similar samples of teachers working in similar context.

Conclusions and Scholarly Significance

The focus of feedback in mastery learning instructional strategies, in assessments *for* learning (Stiggins, 2005), and in the use of formative assessments generally, has primarily been directed toward students. Formative assessments help students to identify important learning goals, recognize their progress toward mastering those goals, and correct any learning errors that they may experience. An equally valuable use of such assessment feedback is to help guide teachers in their efforts to improve the quality of their teaching. The results of this research provide preliminary evidence on what types of feedback teachers find most useful and most meaningful in that process.

In addition, the results of this investigation offer direction to efforts designed to make that feedback even more meaningful so that teachers can better judge the quality of their instruction and initiate changes to improve

their effectiveness in helping all students learn well. Although additional research will help clarify the precise nature of the feedback teachers find most valuable and the most

efficient way for teachers to gain that feedback, this study offers an important first step in that process.

Author Biographies

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Transitioning from a Traditional Educational Model to a Competency-Based Educational Model: Lessons Learned from Administrators

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Abstract

This study examined why schools and districts transitioned from traditional education systems to competency-based, the challenges and benefits school experienced, and characteristics needed in a leader for the shift in education. The study used a quantitative approach informed by survey and correlational research. The participants in this study included 39 K-12 administrators from across the United States. Based on the results of this study, superintendents should transition their districts and schools from traditional based education to CBE for three reasons. First and foremost, we are struggling to meet the needs of our students. Second, student achievement is low in our schools. Finally, we must prepare our students for their future, not the future we prepared for when we were students.

Keywords

traditional education system, competency-based education, personalized learning, transformational leadership, Carnegie Unit, pedagogy

K-12 schools have looked nearly the same for decades, and “a growing number of teachers and leaders recognize that the one-size-fits-all industrial model of teaching and learning has not met the needs of their students” (Colby, 2017, p. ix). A need to transform our schools and prepare our students for tomorrow’s world is evident. Competency-Based Education (CBE) has been increasing in popularity as a style of education that replaces the traditional model where students advance based on seat time.

Prominent organizations that have invested in CBE include the Council on Adults and Experiential Learning (CAEL), the Bill and Melinda Gates Foundation, and the Lumina Foundation (Burnette, 2016). CBE promotes students to a *next* course of study or grade level in each subject after demonstrating mastery of identified learning targets aligned to standards (Wolfe, 2012). Contrarily, traditional education allows students to earn credit for a course after spending a required amount of time in that course and meeting minimum course criteria.

Flaws in Traditional Education System

The traditional education system has worked well for many students over the last 100 years; however, evidence suggests the industrial era factory-based system of traditional education is failing to meet the needs of students in our 21st century society (Berrett, 2012). The Carnegie Foundation created something called a Carnegie Unit, “also known as the credit hour” (Silva, White, & Toch, 2015, p. 3) over a century ago to gauge student readiness for college-level academics (Silva et al., 2015). Its purpose was to standardize students’ exposure to subject material by ensuring consistent amounts of instructional time.

However, it was never intended to be a measure of what students learned (Silva et al., 2015). The Carnegie Foundation issued a report following a two-year study that acknowledged a need to revisit the Carnegie Unit (Silva et al., 2015) with a focus on more transparent and flexible ways to deliver education. The study found the Carnegie Unit remains the focal point of American Education which spans from elementary school to graduate school, and they cited CBE as an effective education approach that provides needed flexibility and transparency in delivery of education (Silva et al., 2015).

Transformational Leadership Theory

Burns (1978) first introduced transformational leadership as a leadership paradigm that relied on contractual relationships between leaders and subordinates. Burns believed that transformational leaders were different and did more than create an exchange of perks in relationships between leaders and subordinates. Burns (1978) argued that transformational leaders motivated followers to seek higher-order needs, to look beyond their self-interest to organizational goals, and to enhance their sense of morality to “more principled levels of judgement” (p. 455).

Bass and Avolio (1994) extended Burn’s work and designed a systematic model of transformational leadership. Their work labeled four dimensions of transformational leadership that included: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Transformational Leadership Theory provides leaders with an understanding that leadership can motivate subordinates “to do more than they originally expected to do” (Bass, 1997, p. 133). Transformational leaders change culture in a manner that reflects their vision (Bass, 1985). This type of leader fosters

collaboration by communicating shared visions, constructing mutual respect and trust, and providing opportunities for cooperation between employees (Demir, 2008).

Competency-Based Education

Competency-based education is also referred to as mastery-based, proficiency-based, and performance-based education. Marzano et al. (2017) stated:

One of the most prominent issues in a traditional classroom is the struggle to meet the learning needs and maintain the engagement of all students in a class. Often the hardest students to reach are those on the periphery of the learning continuum; for example, the quick learners who rapidly grasp the material then disengage from learning, or the struggling students who avoid asking questions or trying their best because they know they don't understand.

A solution to help educators reach these students is a shift to competency-based education and personalized learning, an educational reform growing rapidly in prominence within K-12 classrooms. (p. 206)

There has been an increase in state and federal attempts to foster school reform

through legislation requiring all students demonstrate grade level proficiency in the core subjects of math, science, and reading (Moran, 2009).

As of 2012, there have been 36 states with policies that allow students to earn credits based on competencies that demonstrate academic proficiency instead of earning the credits via traditional Carnegie units (Cavanagh, 2012). CBE is designed to equitably ensure all students develop success skills they will need for college, career, and life. The Foundation for Excellence in Education (n.d.) defined competency-based education as:

A system of instruction where students advance to higher levels of learning when they demonstrate mastery of concepts and skills regardless of time, place or pace. In a traditional system, time is the constant and learning is the variable, meaning students spend a set amount of time on certain subjects and advance at predetermined intervals (course units and grade levels) regardless of whether or not they have mastered the material. (Para.1)

The field of competency-based education is evolving and therefore does not have a one-size-fits-all explanation. The reason for this is threefold and is based on the following:

1. "Competency-based education is a paradigm shift" (Casey & Sturgis, 2018, p. 2).
2. "Building capacity for competency-based education—supporting teachers, leaders and students to develop the knowledge, skills and competencies required of this new paradigm" (Casey & Sturgis, 2018, p. 2) to cope in a new system takes time.

3. “Districts and schools are operating under state and national policies that uphold the traditional system” (Casey & Sturgis, 2018, p. 2).

According to Casey and Sturgis, one hundred innovators in competency education came together in 2011 for the first time and worked up a definition of high-quality competency-based education that included five elements. The innovators included leading teachers, principals, district, and state leaders.

The knowledge from these innovators has evolved since 2011 and now includes 10 distinguishing features of CBE. These features help leaders and teachers as they transition from traditional based education to competency-based education. The updated 10 features, as identified by Casey and Sturgis (2018) are as follows:

1. “Student success outcomes are designed around preparation for college, career and lifelong learning” (Casey & Sturgis, 2018, p. 5);
2. “Districts and schools make a commitment to be responsible for all students mastering learning expectations” (Casey & Sturgis, 2018, p. 5);
3. “Districts and schools nurture empowering, inclusive cultures of learning” (Casey & Sturgis, 2018, p. 5);
4. “Students receive timely and differentiated instruction and support” (Casey & Sturgis, 2018, p. 6);
5. “Research-informed pedagogical principles emphasize meeting students where they are and building intrinsic motivation” (Casey & Sturgis, 2018, p. 6)
6. “Assessments are embedded in the personalized learning cycle and aligned to outcomes including the transfer of knowledge and skills” (Casey & Sturgis, 2018, p. 6);
7. “Mechanisms are in place to ensure consistency in expectations of what it means to master knowledge and skills” (Casey & Sturgis, 2018, p. 6);
8. “Schools and districts value transparency with clear and explicit expectations of what is to be learned, the level of performance for mastery, and how students are progressing” (Casey & Sturgis, 2018, p. 7);
9. “Strategies for communicating progress support the learning process and student success” (Casey & Sturgis, 2018, p. 7); and
10. “Learners advance based on attainment of learning expectations (mastery) through personalized pathways” (Casey & Sturgis, 2018, p. 7).

Personalized Learning

A component of competency-based education is personalized learning. Bray and McClaskey

(2015) provided the following definition of personalized learning:

In a personalized learning environment, learners actively participate in their learning. They have a voice in what they are learning based on how they learn best. Learners have a choice in how they demonstrate what they know and provide evidence of their learning. In a learner-centered environment, learners own and co-design their learning. The teacher is their guide on their personal journey. (p. 14)

Patrick, Kennedy, and Powwel (2013) emphasized that “personalized learning is not equal to competency-based learning”; however, they said, “they are related and terms are often (mistakenly) used interchangeably” (p. 22).

The U.S. Department of Education (2013) tagged competency-based learning and personalized learning in the same title without distinction. The Department of Education views the two (competency-based learning and

personalized learning) as a way to transition away from seat time in favor of a structure that creates flexibility and allows students to progress as they demonstrate mastery of academic content. Students demonstrate mastery regardless of time, place, or pace of learning. The strategies utilized in competency-based learning and personalized learning include online and blended learning, dual enrollment and early college high schools, project-based and community-based learning, and credit recovery.

The following research questions guided this study.

1. What perceptions do K-12 administrators’ have of traditional educational systems prior to transitioning to competency-based education and to what extent and in what direction do these perceptions correlate with each other?
2. What perceptions do K-12 administrators have of why their districts chose to implement competency-based education and to what extent and in what direction do these perceptions correlate with each other?
3. How do K-12 administrators describe the various setbacks, if any, faced by administrations during implementation of a competency-based education system and to what extent do these setbacks co-occur with each other?
4. What benefits, if any, do K-12 administrators describe as a result of transitioning their schools to competency-based education and to what extent do these benefits co-occur with each other?
5. What resources, if any, do K-12 administrators perceive are needed to implement competency-based education and to what extent and in what direction do these perceptions correlate with each other?

6. What characteristics in a school leader do K-12 administrators perceive as necessary for implementing a change to CBE in a school and to what extent and in what direction do these perceptions correlate with each other?

The targeted population for this study was administrators working in schools or districts that have already made the transition from traditional based education to competency-based education. The research population was generated through collaboration with organizations including

KnowledgeWorks, Getting Smart, CompetencyWorks, Excellence in Education, and iNACOL. The list of schools recommended by KnowledgeWorks, Getting Smart, CompetencyWorks, Excellence in Education, and iNACOL are identified in Table 1.

Table 1

Schools Recommended for Participation in This Study

Districts and Schools	Number of Schools or Kids
Chugach School District (AK)	5 schools
Dallas Independent School District (TX)	230 schools
East Carver County Schools (MN)	18 schools
Henry County Schools (GA)	50 schools
Kettle Moraine School District (WI)	10 schools
Kenowa Hills Public Schools (MI)	6 schools
Lindsay Unified School District (CA)	9 schools
Marysville Exempted Village School District (OH)	9 schools
Mesa Public Schools (AZ)	87 schools
Mesa Valley School District 51 "D51" (CO)	46 schools
Montpelier Public Schools (VT)	3 schools
Noble Public Schools (OK)	5 schools
Pinellas County Schools (FL)	140 schools
RSU2 (ME)	9 schools
Sanborn Regional School District (NH)	4 schools
Westminster Public Schools (CO)	20 schools
Bronx Arena High School (NY)	230 students
Casco Bay High School (ME)	365 students

Cumberland High School (RI)	1,280 students
Deer Isle-Stonington High School (ME)	110 students
Impact Academy (MN)	450 students
Montpelier High School (VT)	275 students
New Haven Academy (CT)	250 students
Noble High School (ME)	1075 students
Nokomis Regional High School (ME)	680 students
NYC Alternative Schools (NY)	10,000 students
Purdue Polytechnic High School (IN)	160 students
Aveson Global Leadership Academy (CA)	415 students
Big Picture Learning Schools	Network of schools in 25 states
Blackstone Academy (RI)	300 students
Boston Day & Evening Academy (MA)	400 students
Brooklyn LAB Charter School (NY)	325 schools
Crosstown High (TN)	500 students
Furr Institute for Innovative Thinking (TX)	1,010 students
Level Up Academy (MN)	150 students
MC2 Charter School (NH)	2 schools
Powderhouse Studios (MA)	36 students
Summit Public Schools (CA/WA)	Network of 11 schools
Urban Assembly Maker Academy (NY)	100 students
Washington Leadership Academy (DC)	110 students

The demographic data collected from the survey of 40 superintendents and their K-12 administrators received 39 responses. Six superintendents responded which represented (15.38%), one assistant superintendent responded which represented (2.56%), 18 principals responded which represented (46.15%), seven assistant principals responded

which represented (17.95%), and seven other responses were recorded which represented (17.95%) of the total responses. The other category of administrators included one director of 21st century learning, four directors, one district administrator, and one chief executive officer.

Methods

The authors used statistical means, standard deviation, and Spearman's correlation coefficient to understand the administrator responses and identify correlations between the responses.

Findings from peer-reviewed journals indicate that negative perceptions of traditional based education led to reasons why schools chose to move to competency-based education.

Additionally, the literature review identified that reasons why schools chose CBE included statewide initiatives, low student achievement, and a push from district accreditation agencies. The benefits included personalization, meaningful assessment, better prepared students for life, and educators job satisfaction.

The literature review stated that the main administration. Findings from peer-reviewed journals indicate that setbacks included resistance from staff, community, students and resources needed to implement CBE were professional development, flexible seating, additional staff, and curriculum.

Last but not least, the characteristics identified as necessary in a school leader to implement CBE included mentorship mindset, creativity, strong role model, and being collaborative.

In total, the authors conducted six Spearman's correlation coefficient analysis on the responses of the administrators. Triangulation was achieved by collecting data utilizing Likert Scales as well as collection of open-ended questions that allowed the respondents to produce their own responses without having to choose from a list of responses.

Results

Assumptions for survey and correlational research design were met. These assumptions were (a) the participants will answer the questions in an honest and candid manner, (b) the inclusion criteria of the sample are appropriate. Criteria assured participants have all experienced: (a) a same or similar phenomenon as described in the study, and (b) participants have a genuine interest in participating in the research and do not have ulterior motives for being in the study.

Negative perceptions of traditional educational systems

The mean of perceptions ranged from 4.58 to 5.42 with all responses being in the agree or strongly agree category. The mean and standard deviation of the responses for this question are identified in Table 2.

Table 2

Mean and Standard Deviation of K-12 Administrator Perceptions of Traditional Based Education

Perceptions	Mean	SD
Failing to prepare students for life	4.58	1.18
Time based	5.42	.63
Grading practices not aligned to what is learned	5.32	.92
Resembles a fixed mindset	5.03	.96
Ranks and sorts students	5.29	.82
High variability in how teacher determines proficiency	5.24	.70

The results indicated a positive relationship between all perceptions ranging from $r_s = .35$ to $.65$. The largest correlation was a large, statistically significant correlation between the K-12 administrators' perception that the traditional educational system grading practices do not accurately identify what the student has learned and the perception that the traditional system resembles a fixed mindset ($r_s = .648$, $p < .01$). According to Cohen (1998) this coefficient would be considered a large effect.

Why districts and schools chose to implement competency-based education

The mean of responses ranged from 2.55 to 5.21. This represented responses from *Somewhat Disagree* to *Agree* of why schools moved to competency-based education. The mean and standard deviation of the responses are identified in Table 3.

Table 3

Mean and Standard Deviation of K-12 Administrators' Perception of the Why

Why	Mean	SD
Struggling to meet the needs of the students	5.21	.83
Statewide initiative	2.55	1.83
District administration promoted and built capacity	4.87	1.40
Student achievement was low	3.92	1.63

The results indicated positive and negative relationships between the perceptions of why ranging from $r_s = -.17$ to $.61$. The largest correlation was a positive, large effect, statistically significant correlation between the

why of student achievement being low and struggling to meet the needs of the students $r_s = .61$, $p < .01$. According to Cohen (1988), this coefficient would be considered a large effect.

Setbacks faced by K-12 administrators during implementation of competency-based education

The mean of responses ranged from 1.92 to 3.41. This represented responses from *Rarely* to *A Moderate Amount* of setbacks faced by K-12 administrators. The mean and standard deviation of the responses for this question are identified in Table 4.

Table 4

Mean and Standard Deviation of K-12 Administrator Setbacks

Setbacks	Mean	SD
Resistance from staff	3.41	.98
Resistance from community	3.10	1.06
Resistance from students	2.59	1.03
Resistance from accreditation agencies	1.92	.81

The results indicated positive and negative relationships between setbacks ranging from $r_s = -.08$ to $.62$. The largest correlation was a positive, large, statistically significant correlation between the setback of resistance from community and the resistance from students ($r_s = .62$, $p < .001$). According to Cohen (1988), this coefficient would be considered a large effect.

Benefits described by K-12 administrators as a result of transition their schools to competency-based education

The mean of responses ranged from 2.82 to 3.67. This represented responses ranging from *Moderate Benefit* to *Major Benefit* as a result of transition to competency-based education. The mean and standard deviation of responses for this question are identified in Table 5.

Table 5

Mean and Standard Deviation of K-12 Administrator Benefits

Benefits	Mean	SD
Personalization	3.67	.57
Meaningful assessment	3.46	.63
Better prepared for life	3.46	.81
Educators job satisfaction	2.82	.87

The results indicated positive relationships between benefits ranging from $r_s = .40$ to $.61$. The largest correlation was a positive, large, statistically significant correlation between the benefit of students being better prepared for life after high school and the benefit of personalization of education for every student ($r_s = .61$, $p < .001$). According to Cohen (1988), this coefficient would be considered a large effect.

Resources needed as perceived by K-12 administrators to implement competency-based education

The mean of responses ranged from 2.18 to 3.79. This represented responses ranging from *Minimal* to *Extensive* resources needed to implement competency-based education. The mean and standard deviation of responses for this question are identified in Table 6.

Table 6

Mean and Standard Deviation of K-12 Administrator Perceptions of Resources Needed

Resources	Mean	SD
Professional development	3.79	.41
Flexible seating	2.45	.82
Additional staff	2.18	.79
Curriculum	3.21	.80

The results indicated positive relationships between resources ranging from $r_s = .09$ to $.34$. The largest correlation was a positive, moderate, statistically significant correlation between the resource of additional staff and the resource of curriculum and standards resources ($r_s = .34$, $p < .05$). According to Cohen (1988), this coefficient would be considered a moderate effect.

Characteristics in a school leader perceived by K-12 administrators necessary for implementing a change to competency-based education

The mean of responses ranged from 5.05 to 5.79. This represented responses ranging from *Moderately Important* to *Extremely Important* characteristics of administrators needed to implement competency-based education. The mean and standard deviation of responses for this question are identified in Table 7.

Table 7

Mean and Standard Deviation of K-12 Administrator Perceptions of Leadership Characteristics

Characteristics	Mean	SD
Mentorship mindset	5.31	.82
Creativity	5.05	.81
Strong role model	5.38	.74
Collaborative	5.79	.40

The results indicated positive and negative relationships between characteristics ranging from $r_s = -.04$ to $.34$. The largest correlation was a positive, moderate, statistically significant correlation between the characteristic of strong role model and the characteristic of mentorship mindset ($r_s = .34$ $p < .05$) According to Cohen (1988), this coefficient would be considered a moderate effect.

Discussion

Empirical research on competency-based education is extremely limited regarding implementation and student outcomes (Scheopner, Brett, Cox, & Greller, 2018). However, the results of this study help to strengthen the understanding of why administrators chose to transition to CBE. The administrators in this study either agreed or strongly agreed with the following perceptions of traditional based education.

Traditional based education is failing to prepare students for life, is time based, has grading practices not aligned to what is learned, resembles a fixed mindset, ranks and sorts students, and has high variability in how teachers determine proficiency.

All of these perceptions indicated a positive correlation with each other with the largest being between the perception that grading practices not accurately identifying what the student has learned and the perception that traditional based education resembles a fixed mindset.

The administrator's responses to why their schools moved to CBE varied. The findings support the work of Casey and Sturgis (2018) that the field of competency-based education is evolving and is not one size-fits all transition from the traditional based education model.

For example, the administrators did not agree that a statewide initiative was a reason they moved to CBE. The strongest agreement was from their schools struggling to meet the needs of their students. A strong, large, statistically significant correlation existed between the why of student achievement being low and struggling to meet the needs of the students.

The findings of setbacks showed that the administrators in this study rarely had resistance from accreditation agencies. Their strongest resistance came from staff. Correlations among setbacks were both positive and negative. The largest correlation was a positive, large, statistically significant correlation between resistance from the community and the resistance from students.

The results indicated that the administrator's perceptions of benefits from the literature review ranged from a moderate benefit to a major benefit. The benefit of personalization received the highest mean and was considered a major benefit. All of the benefits indicated a positive relationship with each other with the largest being between the benefit of the students being better prepared for life after high school and the benefit of personalization of education for every student.

The findings showed that resources needed to implement CBE varied from minimal to extensive. The administrators perceived adding staff to be a minimal resource needed.

The largest need came from professional development. All of the resources indicated a positive relationship with each other with the largest being between additional staff and the resource of curriculum and standards.

The results indicated that the characteristics perceived by K-12 administrators as necessary for implementing a change to CBE ranged from moderately important to extremely important. The greatest identified characteristic was collaborative. Several open-ended responses included "leadership development," "shared leadership" and "warm demeanor."

There are several limitations to this study. Two of the limitations are trust and developing and maintain a mutually constructive relationship that is characterized by caring, respectfulness, and equality of voice.

It is recommended that a future qualitative study be concluded to expand the results of this study and include the additional schools that made the transition to CBE since this study began.

Change is occurring within K-12 schools across the nation as they transition to competency-based education (CBE). According to Freeland Fisher and Arnett (2017), "Driving innovation will require more than simply modifying school performance goals or tweaking the tools used to drive school improvement" (p. 2).

Conclusions

As superintendents transition their schools to competency-based education, they should take it slow, seek guidance from fellow colleagues and organizations, and be prepared to face challenges and setbacks along the way. According to Colby (2017), "The transformation of schools and districts to CBE requires strong leadership." (p.13). One of the researchers in this study is transitioning his district to competency-based education and therefore can relate to the findings of this study

through first-hand experience of the shift from traditional based education.

Based on the results of this study, superintendents should transition their districts and schools from traditional based education to CBE for three reasons. First and foremost, we are struggling to meet the needs of our students. Second, student achievement is low in our schools. Finally, we must prepare our students for their future in time, space, and pace, and not the future we prepared for when we were students. CBE is the future of education. It is our moral imperative to be bold and fearless in the pursuit of competency-based education as we strive to incorporate social emotional learning and reduce the gap between underserved and gifted and talented students.

We recommend that future researchers consider qualitative studies to expand on our results and include additional schools that have made the transition since the conclusion of this study. Several limitations impacted this study.

The number of surveys collected during this study may have impacted the accuracy and ability to generalize the results. Additionally, the schools and districts identified may not represent all of the schools and districts that have previously made the transition nor those that were making the transition to CBE during the course of the study.

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[GPA] in, [GPA] out: Uncovering Inequity and Flaws in Grading Policies

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Abstract

This commentary explores how the omnipresence of letter grades and grade point average (GPA) as metrics in American education encourage uncritical acceptance of current grading practices despite the inherent inequity and flaws that harm students and institutions. The reduction of the student experience to a GPA launders both meaningful nuance of how course grades are assigned as well as potential evidence of inequitable grade distribution. The lack of consistency in how course grades are calculated erodes metric reliability and validity. Systems over reliant on GPA will continue to overlook the presence of inequity in grading when setting future policy, so developing diverse datasets is advised in an effort to promote equity within our schools.

Keywords

GPA, grading policy, equity, assessment

Education exists to support the proposition that individual growth and learning are possible. Additionally, evidence of intellectual growth and learning are observable and therefore believed to be measurable. These are not tremendously controversial claims; however, controversy can arise when deciding what metric best provides educators evidence of learning and academic attainment. Standardized tests and grading systems are two of the most prominent choices.

The reputation and industry surrounding standardized tests arguably are coming under increased scrutiny following 20 years of being regarded by policymakers as an effective way to create accountability in schools (Strauss, 2020). In places where standardized tests have waned, grades and grade point averages (GPA) have begun to reaffirm the influence grades have had on the American education system for the past 200 years (Brookhart et al., 2016; Durm, 1993).

The symbolic representations of student achievement by way of a letter grade and GPA are relatively easy to understand: An A (4.0) is most desirable. An F (0.0) is least desirable. There are several variations to symbolize student achievement (e.g., E, I, NP, O, P, S, etc.), but they all share the core idea that marking students with a singular symbol (letter or numeric based) is a suitable way to differentiate our students.

GPA is generally considered a heuristic that accurately represents the entirety of the academic experience in a quantifiable way that can be communicated in near-universal fashion within and between schools nationwide. The acceptance of this perspective results in using GPA to advise students and policy. It is through the retelling of this narrative that GPA

has become a “proverb of education” (Souja, 2020), allowing it to keep its heralded dogmatic status without much criticism.

The continued use of GPA as a symbolic representation of our students has the potential to cause much harm to our students, and our systems, if the current shared understanding and comprehension of GPA amongst education stakeholders remains unchallenged.

The uncritical acceptance of reducing students to a number misrepresents student achievement due to problems with validity and reliability. The effect hampers the learning environment and exacerbates inequity (Blum, 2020; Brimi, 2011; Delgado & Stefanic, 2017; Farr, 2000; Kohn, 2018; Lipnevich et al., 2020; McMillan, 2001; Reeves, 2004; Solomon & Piggott, 2018). Systemic harm is a potential byproduct of over-confidently using GPA data to inform what will become ineffective policy (Bahr et al., 2019; Beatty et al., 2015; Brimi, 2011; Brookhart et al., 2016; Farr, 2000; Geiser & Santelices, 2007).

Grades Reduce Nuance, GPA Obliterates It

Producing a GPA is a commonly understood process: Individual letter grades are assigned at the completion of a course, translated into a four-point scale, then combined and averaged with other grades that have been received to generate a GPA. Producing this quantitative distillation of a student’s academic history in the form of GPA allows the data gleaned to be used in guiding educational decision-making ranging from individual student advising to measuring and shaping federal education policy (Beatty et al., 2015; Brookhart et al., 2016; Ravitch, 2016).

Due to the significant impact these data sets can have on the decision-making process, understanding where these numbers come from, and what the symbols represent, serve as helpful reminders of what is being communicated by a letter grade or GPA.

The practice of measuring students on an A-F (and eventual 4.0-scale) emerged and evolved throughout most of the 19th century to replace the charting of student development via lengthy written narratives (Durm, 1993). The time and labor-intensive narratives were perceived by many to be cumbersome and made it difficult to transfer and compare students across time and institutions (Brookhart et al., 2016).

The lack of standardization within the narratives led to concerns about the potential of subjectivity to tarnish the validity of the metric. The innovative letter grades and GPA seem to solve many of these problems by providing an ordinal metric that could be understood in a seemingly universal way (Brookhart et al., 2016).

Elements of quantification, standardization, and universality of student data make GPA particularly well-liked by many in the post-*No Child Left Behind* era of data-driven decision-making (Strauss, 2020; Ravitch, 2016).

Although the process of calculating a GPA is well understood, there is uncertainty to be found in terms of what the course grades mean and how confidently we can trust what a GPA represents. What a letter grade on the A-F scale is purported to represent versus what it actually represents are influenced by grade level and a variety of classroom policies (which are influenced by many things which include teaching philosophies, content area, and institution policy).

The purpose of assigning grades and what the grades represent potentially shift throughout a student's career (Guskey, 2009). Although their form often deviates from a strict A-F scale, elementary teachers primarily use grades to start a conversation between educators, students, and parents, regardless of what letters are used (e.g., "Your son is doing great with reading, hence the O for outstanding, but we should spend a little more time helping him with math where he has an E for emerging").

Secondary education teachers can use the awarding—or withholding—of good grades as a compliance device to assist classroom management under the guise of preparing students for work or higher study (e.g., "Your content is great, but you will get a bad grade for not following formatting rules"). Post-secondary instructors report viewing grades as a determinate of whether future study in the discipline should continue and to weed out future applicants from selective programs (e.g., "This is the definitive measure of your academic potential").

Student experiences may vary from the findings of Guskey (2009); however, the research highlights the diverse criteria that determine a grade, thus affecting what a grade or GPA represents. Is the grade exclusively representative of content competency (e.g., understanding how to multiply fractions) or is it influenced by items unrelated to the material addressed in the learning outcomes whose influence comes about because of classroom policy (e.g., being a "good" student)? The answers to these types of questions provide tremendously relevant nuance that is rarely acknowledged when making sense of or comparing grades. This presents a big problem for the generalizability of what an individual grade or GPA is based on.

The Effect of the Status Quo

The current status quo of being comfortable with trading off nuance for ease of grade computability affects our ability to understand how students and our systems are performing.

Being grade centric affords the convenience of only having to look at a number. This potentially breeds complacency which prevents policymakers from remaining vigilant of what other stories are being told within our schools in ways not easily visible by looking at GPA. These blinders that prioritize uncertain data and grading policies potentially harm our students, curtail our ability to make sense of curriculum and instruction efficacy, and hamper achievement of institutional missions.

During the initial weeks of the Covid-19 pandemic, many acknowledged that grades received during the spring of 2020 might not be representative of true scholastic achievement but marred by myriad other factors.

The discussion of how pandemic-related disruptions would negatively impact the academic records of students caught in the maelstrom led to acceptance of the need to “hold students harmless” when grading (Castro et al., 2020).

These calls for benevolence reaffirm an unspoken reality: grades can be used to harm students. The timing of these messages imply we are comfortable harming students with grades as long as a global pandemic is not raging. When all students had to weather a life altering disruption, our ironclad grading policies softened, and we found a way to make it work.

Unfortunately, when equally life altering disruptions happen on an individual level, the willingness of our policies to

acknowledge individual hardship are often less kind and less equitable.

Uncovering the negative effects that inequity in grading policy and GPA have on our students can frequently be uncovered by walking the halls of our schools.

Simply ask any student (as most have been burned by grading policy at some point) an example of what they feel is unfair or unhelpful about the ways that they are assessed. The willingness to fully listen to their experiences unfortunately does not always materialize, as legitimate grievances are quickly dismissed by administrators and faculty.

The predictable ad hominem retort, “of course you would say that, you are a student,” prevents acknowledgment of the lived experiences of our students and dismisses worthwhile data.

The importance that grades will have on a student’s future has been made abundantly clear to every pupil, which contributes to why it hurts so much when students experience what they believe to be unjust grading practice.

The introduction of grades into the learning environment introduces an external motivator that takes the pursuit of knowledge and mastery in a given subject and can turn learning into a performative game that rewards and punishes its players (Kohn, 2018). Increased emphasis on letter grades perpetuates motivation to “play the game of school” and encourages students to select a path of least resistance academically, as the reward for positive marks can supersede whether or not one was challenged and learned everything they could during their time in school (Kohn, 2018; Solomon & Piggott, 2018; Warner, 2020).

An additional impact of those approaching education as a game involves the potential to attach self-worth to the grades they receive (despite the, at times, arbitrary nature of what grades truly represent). It creates a meritocracy myth where it is to be believed that GPA is capable of definitively and accurately ranking a student's value. The perceived importance of grades is bolstered by the reification of the metric by our institutions in the form of valedictorian-adjacent awards/praise which foster self-fulfilling prophecies and drive schools farther from providing equity.

The reception of good grades early in one's academic career often opens doors for access into gifted and talented programs and advanced placement courses. Alternatively, those who received poor grades early on are likely to be set onto a track that makes the opportunity to become a high achiever much less likely.

Stripping nuance from grades also strips awareness and acknowledgment of inequity amongst students. Exclusively attributing good grades and high GPA to academic prowess prevents critical inquiry into what else might be at play.

Whether or not students are harmed by grades often boils down to one's amount of privilege. Students whose families have stable housing, access to food, and present, supportive caregivers are fortunate in their ability to be more likely to focus primarily on school and extracurricular activities during their school experience.

On the other hand, students who need to work to support their families, care for their younger siblings, and lack parental support are likely more apt to struggle with academic due dates, grammar expectations, and completing

assignments on a rigid schedule. These salient variables are often not going to be considered or valued when looking at a transcript.

A letter grade, in its current form, cannot begin to explain the performance of students in an equitable and meaningful way. The current system treats work not completed due to an obstinate and apathetic, but otherwise privileged, student the same as a student who would love nothing more in life than to be able to sit down and be selfish enough to take a half-hour for themselves after school to better their understanding of their studies and brighten their future.

Arguably a better solution could be found for both students. However, in the current setting take a guess which one of the students (or parent) is going to have the ability to successfully litigate an opportunity for a second chance?

The truly gross nature of GPA is that the privileged students, who are already recipients of increased opportunity, are additionally rewarded by being able to brandish their high marks to interested colleges whereas the less advantaged, are burdened with a millstone of a bad GPA that makes an already challenging life more difficult going forward in a way that is devoid of any alignment with the core elements of what education should provide our students.

[GPA] In, [GPA] Out

Classroom policy is influenced by pedagogy specific to the content area, teaching philosophy of the instructor, educational dogma, systemwide/schoolwide grading policy, and other items (Brookhart et al., 2016; Warner, 2020). An overall course grade is often the result of a complex matrix of formative and summative assignments given

different weight and influence which vary greatly course to course. Final tests may influence 40% of the course grade in one class and 5% in another. Deductions for grammar, timeliness, formatting, and classroom management violations are not consistent either (Brookhart et al., 2016).

Many classroom policies in place do not incorporate sound pedagogy. Existence of these policies is attributable to “teaching folklore” (Warner, 2020, p. 206) in which classroom rules are largely shaped by policies the instructor had when they were students and endure, unquestioned, due to the inertia of tradition rather than sound best practice.

It is encouraging that, as systems begin to address inequity at a systemic level, a variety of safeguards (e.g., accepting late work, retake policies, etc.) have been put in place to minimize wholesale misrepresentation of course grades. Though a step in the right direction, these policies are still rare and often relate only to summative assessment.

Even if inequitable criteria for grades were resolved, the variability between instructors and teaching philosophies can severely hamper the descriptive and predictive value of grades due to issues with interrater reliability. Brimi (2011) looked at how 73 different high school English instructors independently evaluated the same essay. The results yielded assigned grades that spanned all five of the letter grades with a total range of 46 percentage points amongst the grades given.

One student essay is only a piece of a puzzle in what becomes the overall course grade. The lack of agreement between instructors compounds as more pieces are added. This is not proof of faculty being at

fault; rather, it lays bare the impact of diverse expectations and approaches in the classroom.

The important takeaway is the potential for variability to exist within a singular assessment, which is folded in with the additional variability of other assessments, processed through the individual course/institution grading policies, and emerges as a course grade. The result being that the same student, progressing through the same course outcomes, taken with different instructors or at different institutions will potentially yield two different grades.

Despite this imprecision, and the inequitable grading criteria, there is little to no hesitation sending grades into a stream, that flows into the river of GPA. Once there, the GPA enters the ocean of institutional transfer where all GPA are assumed equal, and a 0.01 deviation in GPA can make or break a student being admitted to a receiving institution. A system that operates on the flawed premise that GPA from one school equals a GPA from another (Imose & Barber, 2015) is going to be operating on flawed interpretation of the data. The impact of this system creates unequal competition in the education marketplace and misrepresents interinstitutional comparisons as being equal when they are not.

Resolving apples-to-oranges comparisons by way of achieving a universal consensus of what grades should represent and how coursework is assessed for the purpose of a nationwide standardized grading policy is tremendously ambitious and borderline impossible. Before one can try to have any understanding of GPA use across schools, there is work to be done in fully understanding GPA in-house.

Consider these three students:

Student 1 enters high school struggling academically, necessitating a tremendous amount of effort from their educational support team to end the year with a C (2.0) average, which is viewed as success relative to where the student began. The following year they build upon the foundation and earn a B (3.0) average for the year. During junior and senior year, the student excels in all of the most challenging electives the school has to offer earning an A (4.0) in every class both years.

Student 2 enters freshman year not particularly interested in the school experience. The student is well-mannered, but not eager to go above and beyond in the classroom. The student does the work that is expected of them and is consistent in earning just above a B average (3.25) each of their four years.

Student 3 enters high school as a graduate of the middle school gifted and talented program. They coast on their already established academic talent to straight A's (4.0) freshman and sophomore year. Junior year the student continues to not apply themselves and enrolls in easy electives, but the diminishing rate of return of their middle-school-talent drops their average for the year to a B+ (3.5). Their final year is rough, but they can still collect their diploma as their classes needed for graduation have been satisfied despite closing senior year with a D+ (1.5) average.

Arguably, Student 1 is the poster child for the transformative power of what is possible when effective policy, committed educators, and students unite; Student 2 represents those systems in place worked well enough to maintain and cultivate the competencies to graduate with an above average GPA; Student 3 represents several failed opportunities for intervention to take place.

The unifying relationship of these students is that each is going to graduate with a cumulative GPA of 3.25. The complexities of the three different student experiences have been reduced to a singular numeric

representation that symbolizes their time in high school. Individual course grades are messy, but the longitudinal nature of GPA has laundered the different trajectories of the students making it difficult to know the true story without parsing over entire transcripts.

From an education leader standpoint any goal measured only by GPA without consideration of the deeper context misses the chance to best understand, and therefore serve, one's schools and one's students. Even if GPA was an accurate measure, when presented as a cell on a spreadsheet understanding what a certain number of students within a certain GPA range means is quite subjective.

How certain can you attribute your graduation rate to the value added of your schools (e.g., Student 1) versus students who otherwise would have succeeded, doing just enough to clear your graduation hurdle (e.g., Student 3) despite your ineffective policies and systems? Some would look at a graduating class that has 40 students graduating with a 4.0+ GPA and point to it as a sign of success, whereas others would look at it frustrated that more challenging opportunities for coursework were not available to these students who experienced a ceiling effect that limited their growth potential.

We are very quick to take a victory lap when simplistic statistics make us look good, but we cannot be lulled into a false sense of confidence. We should be mindful of the limitations that wholesale GPA data provide due to lack of qualitative context.

Ideally, assessments are structured to yield helpful and nuanced data that provides

schools insight on when and how to respond in order to advance our institutional missions. GPA does not provide this.

Exploring and acknowledging the inherent shortcomings of grades and the GPA model should be a primary concern for those trying to achieve equitable solutions to student assessment. Being mindful of the shortcomings encourages development of metrics and measures that are more finely tuned to yield nuanced results. This work is not done alone and opens a dialogue amongst administrators, faculty, students, and stakeholders how student development is best measured within individual classes, buildings, and systems.

These efforts have the ability to refocus the educational experience into one that reaffirms the humanity and empathy that are at times lacking in current practice and achieves it in a way that reminds students and educators of the purpose, value, and mission of our schools.

Author Biography

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1. title of the article:
identify if the submission is original research, evidence-based practice, commentary, or book review
2. contributor name(s)
3. terminal degree
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6. college or university
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8. telephone and fax numbers
9. e-mail address
10. 120-word abstract that conforms to APA style
11. six to eight key words that reflect the essence of the submission
12. 40-word biographical sketch

Please do not submit page numbers in headers or footers. Rather than use footnotes, it is preferred authors embed footnote content in the body of the article. In 2019, APA guidelines were changed so that one space is required after a period. Articles are to be submitted to the editor by e-mail as an electronic attachment in Microsoft Word, Times New Roman, 12 Font.

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2015: 22%	2020: 18%
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- Full title of book
- Author
- Publisher, city, state, year, # of pages, price
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Issue	Deadline to Submit Articles	Notification to Authors of Editorial Review Board Decisions	To AASA for Formatting and Editing	Issue Available on AASA website
Spring	October 1	January 1	February 15	April 1
Summer	February 1	April 1	May 15	July 1
Fall	May 1	July 1	August 15	October 1
Winter	August 1	October 1	November 15	January 15

Additional Information

Contributors will be notified of editorial board decisions within eight weeks of receipt of papers at the editorial office. Articles to be returned must be accompanied by a postage-paid, self-addressed envelope.

The *AASA Journal of Scholarship and Practice* reserves the right to make minor editorial changes without seeking approval from contributors.

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The Journal is listed in Cabell's Directory of Publishing Opportunities. Articles are also archived in the ERIC collection. The Journal is available on the Internet and considered an open access document.

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AASA Journal of Scholarship and Practice

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AASA Resources

New and Revised Resources

- **NEW Resources on leading through COVID**
COVID Guidance, Strategies, and Resources.
www.aasacentral.org/covidguidance/
- **2020-21 AASA Superintendents Salary & Benefits Study**
www.aasa.org/content.aspx?id=45378
- **Official Online Industry Suppliers For Educators**
aasa.inloop.com/en/buyersguide
- **Superintendent's Career Center**
aasa-jobs.careerwebsite.com/
- **2020 Decennial Study of the American Superintendent**
www.aasacentral.org/book/the-american-superintendent-2020-decennial-study
The study is for sale and available at www.aasacentral.org/aasa-books
- **School District Spending of American Rescue Plan Funding**, an AASA survey of hundreds of district leaders across the U.S. in July (2021) about their plans to utilize American Rescue Plan (ARP) and other federal COVID-19 relief funding to address the pandemic-related student learning recovery. Results: www.aasa.org/uploadedFiles/ARP-Survey-Findings-090121.pdf
- ✓ **Join AASA** and discover resources reserved exclusively for members. See Member Benefits at www.aasa.org/welcome/index.aspx. For questions on membership contact Meghan Moran at mmoran@aasa.org
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✓ As the Association’s professional learning arm, **AASA’s Leadership Network** drives educational leaders’ success, innovation and growth, focused on student-centered, equity-focused, forward-reaching education. Passionate and committed to continuous improvement, over 100 Leadership Network faculty connect educational leaders to the leadership development, relationships and partnerships needed to ensure individual growth and collective impact. A snapshot of over 30 academies, cohorts and consortia is represented in the graphic below. To assist in navigating through the pandemic, AASA has produced and archived over 100 webinars since March 2020 on *Leading for Equity* and *What Works* at aasa.org/AASA-LeadershipNetwork-webinars.aspx. Contact Mort Sherman at msherman@aasa.org or Valerie Truesdale at vtruesdale@aasa.org to explore professional learning and engagement.



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<ul style="list-style-type: none"> •Aspiring Superintendents Academy® Programs: •National •Blended •Female Leaders •Latino/a •Urban •Collaborative State or Regional Aspiring Superintendents Academies (MS, MT, MN) •National Aspiring Principal Academy •National Instructional Leader Academy (launch January 2022 with AVID) 	<ul style="list-style-type: none"> • AASA National Superintendent Certification Program® • East • West • Midwest • Urban Superintendents Academy-Howard University + USC • National Principal Supervisor Academy 	<ul style="list-style-type: none"> • Large Countywide Suburban District Collaborative • Eastern States Consortium • National Women's Leadership Consortium • Women in School Leadership Forums • States Communities of Practice Initiative • Certification Program Graduates (new for 2022) 	<p><u>Numerous Cohorts</u></p> <ul style="list-style-type: none"> •Early Learning Cohort •Equity in Action •Innovative Districts Empowering All Learners •Radical Family Engagement •Redefining Ready! •STEM Leadership Consortia •Social and Emotional Learning Cohort •Transformational Leadership Cohort 	<ul style="list-style-type: none"> • Learning 2025 Network of Demonstration Systems enhancing Student-Centered, Equity-Focused, Future-Driven Education-117 districts engaged so far. AASA's Learning 2025 Summit scheduled for June 2022 in Washington DC



➔ Upcoming AASA Events

- AASA 2022 National Conference on Education, Nashville, TN, Feb. 17-19, 2022**
- AASA Learning 2025 National Summit, Washington, DC, June 28-30, 2022**
- AASA 2023 National Conference on Education, San Antonio, TX, Feb. 16-18, 2023**