Understanding Student Voices About Assessment:
Links to Learning and Motivation[1]

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One of the most popular admonitions about classroom assessment is that it needs to be meaningfully integrated with instruction to have a positive effect on student learning and motivation (Shepard, 2000). This assertion has been based on linking well-researched principles of learning and motivation with emerging literature about how the nature of assessment practices affects students. While it is relatively clear how processes such as self-regulation, intrinsic and extrinsic rewards, goal orientation, student self-reflection, and self-efficacy affect learning and motivation, most of the literature connecting these processes to assessment has been based primarily on teachers' assessment practices, the assessment environment, and feedback that is provided to students (Brookhart & Bronowicz, 2003). As a result, educators have been inundated with suggested procedures for formative assessment and assessment for learning, though with an incomplete understanding of how students think about, process, and are affected by these practices.

The effectiveness of assessment practices that are assumed to have a positive impact on learning and motivation, (e.g., providing specific, individualized feedback, using tasks that are perceived to be important and valuable, helping students self-monitor, promoting mastery goal orientations, encouraging appropriate attributions, and making sure students understand criteria for evaluating their work), however, depend on how students perceive and process the practices they experience, the mental schemata used to interpret their work (Brophy, 1999). As Crooks (1988) pointed out many years ago, the effect of assessment on students is mediated by student self-perception, yet assessment research since his work has not, in the main, focused extensively on the manner in which students incorporate the meaning of assessment. That is, the impact of assessment practices is mediated through student perceptions and what about the assessment experience is internalized by students. These student perceptions are the focus of the current study.

The aim of this study is to provide a deeper understanding of the perceptions of students toward assessment as a basis for promoting appropriate assessment practices that will enhance student learning and motivation. The recent proliferation in benchmark, interim, common, and accountability testing, along with our "data-driven decision-making" approach, suggests that it is important to integrate these practices with what students' perceptions are about assessment in general, and to better understand how the increasing emphasis on testing may be affecting student perceptions about assessment

Overall, the research literature that focuses on students' perceptions of assessment is not extensive (Brown & Hirschfeld, 2008). While there is literature that emphasizes the importance of student perceptions of assessment (e.g., Brookhart, 1997; Tittle, 1994), and quantitative research in which secondary and college students are surveyed about self-reported perceptions of assessment toward specific subjects (e.g., Alkharusi, 2011; Brown, 2011; Brown & Harris, 2012; Brown & Hirschfeld 2007, 2008; Dorman & McKnightley, 2006; Gao, 2012), there is relatively little qualitative research on younger students' perceptions more generally that can provide a deeper understanding of how the range of assessment practices may affect students' learning and motivation. Consequently, this study is designed as a qualitative investigation to contribute to our deeper understanding of elementary and middle-level student perceptions of assessment in the current context of more testing with a performance emphasis, as well as the prominence of formative assessment.

Theoretical Framework

Three theoretical perspectives provide the conceptual framework for the study: goal orientation, self-efficacy, and self-regulation. These perspectives are integrated with research on student perceptions of classroom assessment and principles of formative assessment to establish the focus of the questions and data analyses. In addition, we asked students

2

specifically about mistakes and errors that are revealed through assessment results.

Goal Orientation

Goal orientation theory posits that the purpose of performing achievement tasks is important for motivation, feedback, attitudes, and subsequent behavior (Schunk, Meece, & Pintrich, 2014). It is a set of beliefs about why it is important to put forth effort to do well on assessments. In other words, goal orientation consists of the reasons students internalize for motivation in educational settings (Meece, Anderman, & Anderman, 2006). Students who embrace what are called *mastery* or *learning* goals focus on self-improvement, developing competence, accomplishing challenging tasks, gaining insight and new skills and understanding, whereas students who hold performance approach or avoid goals focus on demonstrating ability, receiving extrinsic rewards, avoiding negative consequences and out performing others (Ames, 1992; Ames & Archer, 1988; Elliot & Dweck, 1988; Maehr & Zusho, 2009; Schunk, Meece, & Pintrich, 2014). They are less bothered by mistakes and learning errors.

Students in mastery goal structures also tend to set more learning goals (Self-Brown & Mathews, 2003). While not mutually exclusive, differences in goal orientation clearly affect student perceptions and motivation, particularly further efforts to learn in areas showing incomplete mastery or understanding (Ames, 1992; Ames & Archer, 1988; Elliot & Dweck, 1988). This relates to the purpose of formative assessment. If feedback from formative assessment is to have a positive impact on subsequent learning it is important for the student to bring a mastery goal orientation to the results of the assessment (Cauley & McMillan, 2010). What is unclear, however, is how the nature of the assessment, as perceived by students, may impact goal orientation. This is particularly relevant given the emphasis on performance on accountability and other large-scale assessments. The aim is to pass, to be proficient, not

necessarily to understand. This emphasis, however, has not been tied to student perceptions.

Self-Efficacy

Students' self-efficacy, a key contributor to learning engagement and persistence, is another important facet in understanding students' responses to classroom assessment (Bandura, 1982). Self-efficacy is manifest in a belief in successful performance (Bandura, 1982). Students with a strong sense of self-efficacy believe they are capable of performing well on academic tasks, more willing to exert effort to learn, and to persist in the face of difficulty (Schunk, 1995). A student's interpretation of their assessment outcomes is a key component that determines self-efficacy in academic environments since self-efficacy is situation and task specific (Usher & Pajares, 2008). That is, students may feel a strong sense of self-efficacy to perform well on a mathematics quiz but not very well on a science test, or do well adding fractions but not multiplying fractions (Usher & Pajares, 2008). This suggests that the assessment for that competency is closely affiliated with self-efficacy for that task, as well as expectancy for success (Schunk, Meece, & Pintrich, 2014).

Some studies have indicated that learning environments, including the nature of assessment, have an impact on students' sense of self-efficacy (Schunk, 1984, Schunk & Hanson, 1985). A focus on task mastery promotes stronger self-efficacy, while environments that focus on performance have shown inconsistent connections to self- efficacy (Friedel, Cortina, Turner & Midgley, 2007, Wolters, Ys, & Pintrich, 1996). If the assessment is perceived to be too difficult or easy the results may not have an implication for continued development in self-efficacy and its role in motivation. We know that students are strongly motivated by and learn more from moderately challenging tasks (Andrade, 2013), working in their zone of proximal development (Vygotsky, 1978). We also know that students are clearly more motivated with positive self-efficacy for a given task (Schunk et al., 2014). Furthermore,

several studies have shown that students' perceptions of the importance of assessment to improve learning contribute to the positive development of self-efficacy (Peterson & Irving, 2008).

Self-Regulation

According to Zimmerman and Schunk (2011), self-regulation occurs as "learners personally activate and sustain cognitions affects, and behaviors that are systematically oriented toward the attainment of personal goals" (p. 1). This process involves four phases: goal setting, monitoring of progress, selection and adaptation of cognitive strategies for learning, and reaction and reflection (Pintrich & Zusho, 2002). What is significant for this study is that classroom assessment, in particular, can emphasize these same, or similar, processes. That is, classroom assessment can be conceptualized as a process of articulating learning targets, collecting information related to targets, providing feedback about progress, and using the evidence to monitor and improve learning (McMillan, 2013).

This is essentially what is promoted as formative assessment. But, these characteristics are not necessarily present in classroom assessment, and are rarely occur in large-scale assessment. The key is whether students perceive that these features are part of the assessment/learning process. To the extent the assessment is designed to encourage these components, and students understand this, self-regulation can be enhanced, resulting in more positive motivation and stronger achievement. In this way, assessment is clearly related to the promotion of self-regulation.

Learning Mistakes and Errors

Some researchers contend that the idea of embracing mistakes as part of learning, as an opportunity to grow and promote positive change, is eroding (Tugend, 2011; Travis & Aronson, 2007). Increasingly, mistakes are viewed as something negative, something to be avoided, and something to be blamed on someone or something else (Borasi, 1985). This is consistent with the importance of "being right" on accountability tests. However, there is also a strong contention by others that mistakes and learning errors are not only healthy but necessary, because they define the boundaries of new knowledge and skills and help develop self-regulation and persistence. They allow us to know what is lacking in order to increase understanding (Leighton, Chu, & Seitz, 2012). Empirical research is beginning to confirm this contention. Hattie and Timperley (2007) summarize research that suggests feedback to students is most effective when it addresses mistaken interpretations, especially when a learner believes he or she is correct and turns out to be wrong, and that self-regulation is enhanced by an ability to detect errors. Williams (2010) found that students seek and value feedback on what they have done wrong as well as what they have done correctly. As long as effort is realized as the contributing factor that causes mistakes, research shows that this becomes part of the process of self-regulation (Mathan & Koedinger, 2005).

Furthermore, Roediger and Finn (2009) reviewed work on the advantages of learning through error, concluding that controlled experimental studies suggest learning is more effective in conditions in which students make errors, and that in general people remember information better if they experience challenging tests in which mistakes and errors are expected. In a series of experiments, Kornell, Hays, and Bjork (2009) show that learning improves in conditions where students make errors. They found that if students make an unsuccessful attempt to remember challenging information, a learning error, their retrieval of the information is better

6

compared to students who simply studied the information, without experiencing the errors. In a recent comprehensive review of performance errors, Ohlsson (1996) reports that underlying knowledge and skills are changed when performance is understood as incorrect. Borasi (1985; 1989) has done work with learning mathematics that show how errors can be used as springboards for deeper learning and understanding, student engagement in creative activities, motivation of curiosity, better problem solving, and improved attentiveness to approaching problems. In an anecdotal study of their own high school physics classes, Henderson and Harper (2009) showed how to improve student achievement by helping them by learning from mistakes on tests and other assessments.

The burgeoning interest in the importance of mistakes and learning errors, along with the concurrent emphasis on "being correct" to pass tests, led us to conclude that it was important to investigate the role of mistakes and errors as part of what students perceive and take away from their assessments, results, and feedback. Given the current literature in student perceptions of assessment, we could not identify that this area of study has been investigated.

Student Perceptions of Assessment

To date, there are relatively few studies of elementary and middle school students' perceptions of classroom assessment. Brookhart and Bronowicz (2003) interviewed 63 students from a middle class urban elementary school in their qualitative study of student perceptions of specific, targeted classroom assessment tasks in relation to interest, importance, self- efficacy and goal orientation. Third and fifth grade students were selected by four teachers for the interviews. They found a clear student-centered focus in how students thought about the assessments they experienced, with a heavy emphasis on studying (effort) and a blending of mastery and performance goals. These results suggest that studying and effort, and goal orientations, are major components of student perceptions, and as such are included in the

present study (Brookhart & Bronowicz, 2003). The maximum variation, purposeful sampling procedure in the study, in which both more and less able students were selected, was also used in our study. Peterson and Irving (2008) conducted student focus groups to learn about their conceptions of assessment. They found that assessment was linked with feedback and learning, with an emphasis on improved learning, though this was restricted to a sample of high school students.

There are clearly many more quantitative investigations of student perceptions and attitudes about assessment, but many of these are with older children and adolescents. In a study of eighth grade students, Brookhart, Walsh, and Zientarski (2006) found that the importance and value of assessments of social studies and science tests and performance assessments were significantly related to student achievement. The same was true for self-efficacy and goal orientation. While surprisingly effort was not related to achievement, it was not clear how effort was related to attitudes toward the assessments.

Two recently published quantitative studies by Brown & Hirshfeld (2007; 2008) found that three conceptions of assessment (making students accountable, assessment as enjoyable, assessment ignored) were positively related to achievement. These findings are consistent with both self-regulation and formative assessment theories (Zimmerman, 2008). Even though these studies used secondary students as participants, the links with self-regulation and formative assessment suggest the importance of relating perceptions to these constructs.

The current study uses the approach taken by Brookhart and Bronowicz (2003), with some significant differences. Our investigation includes perceptions about large-scale as well as classroom assessments, with an emphasis on learning errors and mistakes. Our questions to students were structured to learn about perceptions of assessment more broadly, as well as perceptions toward a specific assessment. This design was meant to gauge general perceptions

in light of the increased amount of testing and emphasis on formative assessment, as well as to focus on self-efficacy, goal orientation, and self-regulation, all of which tend to be both a general trait and situation-specific (in this case assessment-specific). In addition, we used middle as well as elementary level participants.

Based on the general aim of the study and existing literature we used the follow research questions to guide our data collection and analyses:

1. What is the meaning of various assessments to students?

2. What do the results from various assessments mean to students?

3. How do assessments, their results, and the feedback received affect students?

4. What levels of effort do students exert toward doing well on assessments?

5. What is the nature of causal explanations students give following their performance on assessments?

6. How challenging do students find assessments, and how does this affect them?

7. How do students respond to mistakes, errors, and not doing well on assessments?

Methodology

Semi-structured, one-on-one, 20-30 minute interviews were conducted with 44 elementary and 19 middle school students from three suburban and two rural schools in a southeastern state. Students were selected by teachers (teachers were selected by principals to represent different years of experience) to be representative of grade level (4-8), subject, and ability level, as well as their ability and willingness to talk to the investigators. Following IRB, school district, and parental approval, each student was interviewed in person by one of the investigators or another researcher trained specifically for this study in their school in a secured environment.

An interview protocol was developed and pilot tested with three students. The questions

were in two major categories – general perceptions about assessment and perceptions about a specific assessment event, with an emphasis on self-efficacy and goal orientation. The questions and probes were designed to cover important topics, but the nature and direction of each interview was individualized and flowed from the voice of each student. Fifty-eight of the 63 interviews were audio transcribed, and each interviewer took briefs notes during and after each session. The interview protocol is shown in Figure 1.

Transcriptions of the first three interviews were coded by four researchers, including the investigators, and discussed to develop an initial list of 42 codes that would be used in interpreting subsequent transcriptions. Inter-rater agreement for coding excerpts was established among the investigators and one of the other researchers to verify consistency in coding. Codes were added during this process, resulting in a codebook with 57 separate codes. Additional codes were added during subsequent coding. The final set of codes was reduced to 32, based on less than three quotes for a single code, and merging of codes that had substantial overlap (see Figure 2).

ATLAS.ti7 was used for data analysis. Quotations for each code were analyzed for frequency, meaning and themes, using interpretive phenomenological analysis, constant comparison, and negative case identification. Themes and patterns from the meanings of the coded excerpts were identified by the investigators. Together with notes taken by the interviewers and analyses of the comments, the findings resulted in a number of themes, patterns, and relationships.

Findings

The analysis of student comments clustered around two major themes – perceptions toward classroom assessments, and the consequences of performance on affect, motivation, behavior, and self-regulation. Perceptions of assessment were further separated into two

10

categories – perceptions that were judged to be relatively stable across assessments, and those that seemed to be influenced by the characteristics of a single assessment. Our analysis suggests that the two major themes are related; perceptions that students have prior to actually experiencing the assessment and receiving results are an important influence on the impact of the assessment experience on outcomes such as affect and motivation.

Furthermore, this relationship is cyclical. The effect of assessment experiences appears to influence the relatively stable perceptions students develop over time.
The manner in which the major themes are related, with additional categories that feed into each one, is diagramed in Figure 3. Our summary of findings is organized by this diagram. We will first examine the two dimensions of student perceptions, and then turn to an analysis of how the perceptions lead to effort, performance, outcomes, and subsequent impacts on student dispositions. The emergence of the two major categories of perceptions is similar to what was reported by Brookhart et al. (2006). In their quantitative study prior achievement and self-efficacy, as well as task characteristics, had significant relationships to achievement.

General, Relatively Stable Perceptions

Perhaps the most important, clearly consistent, and somewhat surprising finding, was that from the perspective of students, assessment of all types, in all subjects, is viewed positively as a valid source of information about learning. It is a readily accepted, if frequent, part of schooling (one student said "we have them like every day, like every day of the week….they're everywhere"). Most of the students indicated that tests are a normal and needed aspect of the culture of schooling, and necessary in showing what has and has not been learned. There was little indication from the students that they thought there was too much testing, and most indicated that school needs to have testing. Given the increases in the amount of testing over the past ten years this may indicate that, for students at least, testing is just part of schooling, it is

11

what they know and have experienced. This generally positive view of assessment and the results from assessments was evident across gender, grade levels and ability, though as would be expected, higher achieving students tended to have the most favorable attitudes toward classroom tests. Only a few students feared or were overly anxious about assessment in general, including large-scale tests at the end of the year (interestingly, students see such assessments as simply another test, albeit a harder one because it's longer and farther removed from learning). Some students did show unhealthy anxiety toward assessment, but most indicated only some nervousness that was not debilitating, at least from their perspective.

As shown in Figure 3, the following five sources of influence appeared to influence these general, relatively stable perceptions.

Attitudes Toward Assessment. This category included both affective and cognitive components of attitudes. The affective component showed how much students liked, enjoyed, or felt positively or negatively about the assessments they take. The emergence of this category is consistent with earlier research showing an "enjoyable" subscale in measuring student perceptions of assessment (e.g., Brown & Hirschfeld, 2008). There were 112 comments associated with affect toward assessment. Their comments about how much the "liked" or "enjoyed" assessments were mixed, and generally elementary students were more positive than middle school students.

Even though many of the students indicated that they did not "like" taking tests, the impact of this affect was muted. The term "like" was used frequently in their comments:

- I just don't like them.

- I definitely don't like it.

- I don't really like tests.

- I don't like them.

When we were able to follow up with students and ask why they did not like assessments their answers tended to focus either on not being prepared to take the test, or having to take long tests, like benchmark and year-end tests. Our interpretation of this was that negative affect was also associated with specific assessment events, but not as influential as more stable, general affect about assessment in general. There were few comments about how "bad" tests were, whether classroom assessments or accountability tests, with the exception of what was voiced by a few students. These feelings were mostly tied to results that were less than what was hoped for on more specific assessments.

Together, comments coded in this category suggest that students are not bothered much by assessments in general, even if they do not "like" them. This may mean that liking or not liking assessments is not as important as compared to other perceptions of assessments, such as how important they are or what they may mean for studying, self-efficacy, and learning. This is supported by the findings from comments coded as "value of assessments," summarized in the following section. When asked simply "What do you think about tests you take?" students were much more likely to talk about importance and value than enjoyment.

It was also clear that, in the main, large-scale tests are not liked as well as classroom assessments, and that younger students were somewhat more positive than older students. Also, if they liked the subject area, then tended to like assessments in that area. This seemed to be related to effort and interest. That is, if they liked the subject area they were more likely to be motivated to exert effort to do well on the assessments. As one student explained, "I really wanted to ace that test because math is really fun and I get to learn a lot. So I was feeling that I could do it." While not specifically investigated in this study, these findings suggest it is important to foster and monitor student attitudes toward the subject.

Importance of Assessment. We coded 221 comments that focused on the importance of

assessments. As a second component of attitudes, importance is a more cognitive appraisal, which can be different from affect (liking). Apart from some students' not liking tests, their comments about both testing and grading were otherwise mostly positive, and suggested that they viewed assessment as a valid source of information about learning.

Despite an abundance of testing, they thought assessments were a necessary part of schooling in order to show what has and has not been learned. When asked why social studies tests were important, one student said "sometimes we learn about Virginia, and so they tell how much you learn about your state." Another student indicated that "I will like learn, like actually know that subject." Note the answers of these students when asked why students have to take tests:

- Because they want to see how much you've learned and see like your weaknesses, if you need help or something.

- They really want to see how much you now.

- Tests like really help me learn more stuff each time.

- So teachers know how we're doing in school and if we're learning and getting what they're teaching us.

- So you can like prove that you know what you've been working on for the past few days.

To the extent that attitudes are comprised of both cognitive and emotional components, it was evident that, with respect to importance, assessments were valued, necessary, and helpful. On the emotional side, there was some indication of negative affect for many students, but even with these students, importance clearly outweighed negative emotions. They may not "like" the tests and other assessments, but they think they are necessary. This is especially true for classroom assessments that they can more clearly and directly relate to their effort in learning and understanding of what is assessed.

Ability/Performance. Ability and previous performance, as would be expected, were related to perceptions about assessment. Students liked assessments that they could do well on, or that challenged them. Several students illustrate this nicely by saying:

- It's because I only like the ones that I actually know.

- If it's something that I am good at, then I don't mind doing it."

- I'm just good at it.

- I'm really good at math.

- Math just comes quickly to me.

- Reading … because I read a lot mostly.

While most of the students indicated that they had the ability to do well, there were some notable exceptions. A few students had a very negative view of their capability to perform. As one student said, "I feel kind of like I'm stupid," another indicated that "I'm not a good reader;" and yet another "I'm not very good at math." When asked about why math tests are hard, three students said the following:

- It's just to me, I don't get math. "makes me feel like I'm dumb

- I'm really bad at math.

- [If] it's something that I'm not really good at, then I don't want to do it.

While there was a general sense of ability that seemed to hold for all types of assessments and subjects, there were also assessment-event more specific influences. We discuss these in relation to the code "preparation," as noted below.

Another area related to ability that was significant concerned the cognitive strategies that students used. Many of the students stressed the importance of the strategies for confidence and performance. When they could apply the strategies they felt positive about the assessments. To some extent these strategies seemed generic, while in other cases, as noted in a later section,

they were related to more specific assessments.

Accuracy. Test results, feedback, and grades were trusted as accurate for the most part, though three students weren't so sure, saying "sort of," "some of them are accurate, some of them are not," and "sometimes and sometimes not." The results from assessments were rarely questioned, and when they did well on the tests they thought this indicated that they "knew it." As one student said, "if I had gotten a bad grade, then it would have meant that I hadn't really learned it." This generally positive view of the accuracy of assessment was consistent across gender and grade levels. The high level of trust in the results is important because it reinforces the potential impact of performance on students. They take results seriously and rarely thought that a low score was because of external factors such as a poor test question (though some indicated that this could be a problem).

Motivation

Over several years of experience in schooling students develop a general attributional style, self-efficacy, and goal orientation, and it is likely that these stable motivational dispositions are important determinants of students' perceptions (cite). From the comments we heard, these dispositions were clearly related to effort and either generally positive or less positive perceptions. That is, students who voiced an ability to do well tended to have positive, enabling perceptions of assessment, and students with a clear mastery or learning goal orientation definitely valued assessments most. As noted in a following section, internal attributions were also accompanied by positive perceptions.

Type of Assessment. We considered type of assessment as a factor that contributed to both a general trait of the individual and something that was associated with specific assessment events. As a relatively stable influence on perceptions, tests and other assessments were viewed from the standpoint of difficulty, which was also related to length. In the main, constructed-

response assessments were viewed as more difficult, more engaging, and more meaningful. Multiple-choice tests were viewed as the easiest. These differences are explained more fully in the section on difficulty.

Specific Assessment Event-Based Perceptions

This type of perception is largely generated from the specific characteristics that accompany an assessment event, from the nature of the assessment to preparation for taking it. Perceptions in these cases are variable, depending on aspects of the assessment that could easily be different in one circumstance as compared to others. In general, assessments that were viewed as somewhat difficult or challenging were motivating and welcome; as were assessments that students were prepared for. What is interesting is what students thought about why an assessment is difficult or challenging, and what they view as "preparation."

Difficulty. Students discussed assessments in terms of difficulty, differentiating between "hard" and "easy" assessments. Additionally, students differentiated between "hard" subjects and "easy" subjects. We coded each of these instances as either "difficulty - easy" or "difficulty - hard," resulting in 234 quotes from students regarding the difficulty of classroom assessments. Many students suggested assessments in social studies and science were the easiest of all of their subjects. Interestingly, almost all of the students we interviewed indicated that multiple-choice tests are the easiest types of assessments. When asked why, one student explained, "Because you get a choice, and you don't have to write any answer down. You have a choice." Another student implied that multiple-choice assessments were easy because they took less work or thought on the part of the student. Another student provided a similar reason. When asked why multiple-choice tests are easier (than other types of tests), this student said, "Because they give you the correct answer," and another student explained "we can just wing it and if you don't know an answer you have a 25% chance of getting it right."

Many students indicated that essay and fill in the blank questions and other types of constructed-response assessments were the most difficult. When asked why he felt essay questions were most difficult, one student said, "Because you have to write your own words about something." Fill in the blank items were perceived as more difficult generally because the answer choices were not readily available. One student explained, "If you fill in the blank, you have a word bank but other times you don't, and it's harder without the word bank."

Students also felt that assessments that required them to show their work were difficult. About math tests, one student said, "I don't like them...because they're too hard and it's hard to show your work." Another student, when answering the question What types are the hardest? said "The ones where we're supposed to sort things or give examples are hard because that's basically when your brain forgets everything that are examples." Yet another student indicated "Because if you have to answer it on your own, you might not get the right answer because you don't really know what the answers are." When asked why assessments other than multiple-choice are harder, a student explained, "Because you have to think it out for yourself."

Students also were clear in their perceptions that constructed-response and performance assessments were the assessments that gave the best indication of learning. Asked what types of assessments were the best for showing what students know, one student responded "projects because we have to go more in depth than we do it it's just like for some questions….like we have to do labs and then graph stuff."

However, some students seemed to enjoy the challenge presented by more difficult tests. Alkharusi (2010) suggests that students who are highly efficacious, or perceive themselves as competent for academic-related tasks, are more likely to persevere in the face of challenge presented by an assessment perceived as difficult. One student explained, "I would say the more challenging the test is, definitely the more I learned." Another said about science tests, "they're

just a lot harder so if I ace one of those tests, then that makes me feel like I did good." Note

how the following comment illustrates the importance of accomplishment of a difficult task:

> In math where I can start a problem that looks like it's all, it's big and it's going to take a
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> long [time], and then I like finally get down to the answer, and I feel like I have
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> accomplished something.

Additionally, students in classes utilizing alternative assessments, such as performance

assessments, and who perceive the focus of assessment as to increase learning typically express

more positive perceptions of their overall classroom environment (Alkharusi, 2010; Gulikers,

Bastiaens, Kischner, & Kester, 2006). The students we interviewed viewed performance and

other alternative assessments as more challenging or difficult than multiple-choice assessments,

but not necessarily harsh or unfair.

One interesting finding that emerged was that students often viewed "longer" tests as

more difficult. This was particularly striking when we asked students about their state

examinations or the Virginia Standards of Learning (SOL) tests. Many students equated the

difficulty of these examinations with the fact that they are often longer, either in item count or

time to complete, than other classroom assessments. One student explained, "SOL tests are hard

and they have a whole bunch of questions." Another student, when asked whether a Math SOL

was difficult or not, elaborated

> Yeah...the math I would say. It was just really lengthy because I think it was 30
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> questions, and I filled up a whole page of notebook paper on the first half.

When asked which of her assessments was easiest, one student explained that quizzes were easy

"...because they have less questions and you don't have to worry about having 50 questions

instead of 20." For our students, it seems the number of questions included on an assessment is

an indication, or perhaps directly in proportion to, the difficulty of the exam, regardless of

subject or item type. These findings relate to those of Brookhart and Bronowiscz (2010), who found that factors such as the availability of resources was an important factor for students when determining the difficulty of an assessment.

The proximity of learning to testing was also an important determinant of difficulty. Quizzes, in particular, were cited as "easy" because they immediately follow learning activities. Difficult assessments are those that cover material learned many weeks reflected in why students did not like the "big" tests that covered several weeks or months. With these "bigger" tests the negative affect strengthened, in part because of how far removed the content of the tests is compared to when they learned. The following comments illustrate attitudes toward "bigger" tests:

- SOL [state accountability tests] tests are hard to me, even though I do well in the year, it's because it's everything at once

- Like really big tests such as benchmarks and SOLs make me nervous.

- It's kind of stressful for like the big tests.

Preparation. Students indicated that their level of preparation for a test was important in their attitude toward it, confidence in doing well, and attributions following their performance. Students talked extensively about how much they studied:

- Well, if I know I've studied for it, I'm not nervous at all, but if I'm like, dang it I needed to look over it and I forgot to, that's when I'm a little nervous."

- I feel confident, very confident because I study a lot at home.

- [Math tests tell what you really know] because I study it the most.

Students indicated that putting in effort prior to a test often pays off: "I...study really, really hard so I can get an A and make everybody proud." Another student explained "Because I knew if I got an A on the test, it would mean that I studied, and that I worked hard and I knew

the answers." Effort in the form of studying warded off test anxiety for some students. "I don't feel that nervous. I feel like I studied a lot of it and I should know this."

The emphasis our participants placed on studying reflected findings by Brookhart and Bronowicz (2010), who found that students equated studying with effort that was consistent with teachers' expectations. Students in our study viewed effort, particularly on their part rather than the teacher's or others', as an important factor in their performance on assessments.

One area of preparation that was apparent and very important was in the area of having an opportunity to use a thinking and problem solving strategy that could be used to answer questions on a specific assessment. For instance, one student who was asked about which assessments best reflected learning said reading tests "because we actually get study guides so we can study them and learn what to do for the tests." Many students voiced specific approaches that they used in answering questions, and felt confident in doing well because these strategies prepared them:

- [I do well in] reading mostly like to do my strategies. I have to draw little lines under the paragraphs so we can find answers.

- When I'm done, I can actually go back in the story and highlight the words.

- Use our strategies.

- Times is my most favorite because I usually get to do my nine strategy.

- Mom said to me, if you don't use your strategies on your tests, you don't know what it is… that's why I always use my strategies on my tests.

- If you don't use your strategies, you don't know what the answer is to the question.

- You can like cross off the choices that you know definitely don't make sense and you can get the answer.

- I sometimes get Ds when I accidently don't do my strategies.

21

- It would have made me feel better because I know that I reviewed my notes and am

  prepared.

Effort.In Figure 3, it is suggested that effort is influenced by both general and assessment-specific perceptions, and has an obvious relationship to performance and attributions. Students talked extensively about trying hard to do well on tests and other assessments (226 comments). They wanted to show their best effort, in part for a good grade, but also, significantly, because results would have more meaning. They wanted to know what they knew and understood, as well as what they didn't know or understand. Putting forth maximum effort provided the basis for making that determination.

Students often spoke about expending effort in the form of reviewing incorrect answers following a test. The students we interviewed explained that if they did poorly on a test, this would indicate that they did not try hard enough, that they did not expend enough effort. "Trying hard" often meant studying more. This effort attribution outcome was often coupled with some negative affect, such as frustration:

> To me it is very important...I am nerve wrecked by the letter F...I will get so nerve
>
> wrecked that all I do is sit there and study and study and study.

Students were often motivated to expend extra effort, in the form of studying, when they were wrong. One student explained, "It...means that I have to challenge myself and work a little bit harder and review some things that I may not want to review." Another student described the process of reviewing after missing questions on a test: "I basically just spend the rest of the class period trying to figure out what I did wrong and then when I finally figure it out, I basically just remind myself that I need to work on it." This student seems to hold an adaptive conception of the relationship between ability and effort (Dweck, 1986; Heyman, 2008; Hong, Chiu, Dweck, Lin, & Wan, 1999), as he describes the process of using the information provided by the teacher

in his or her own efforts to solve a problem or respond to a test item.

These findings are consistent with others' in regard to how student motivation is affected by conceptions of effort. Older elementary and adolescent students in Folmer et al.'s (2008) study displayed increased motivation after negative feedback, particularly when they attributed failure to insufficient effort rather than ability. Additionally, Mclure and colleagues (2011) explain that students who make effort attributions have greater academic achievement over time than students who attribute success or failure to ability.

Grades, Feedback, and Mistakes

Grades and Feedback. There were 242 comments that were coded "grades" or "grades received." Grades were clearly important to students (using comments such as "It would mean a lot to me," "very important," "to me it's very important," "really important," and "it was very really important because it was counting for a grade"), both as consequences of not studying or making mistakes, and as an indication that they may not have learned the content sufficiently. That is, grades were often viewed as an indication of learning as long as a low grade was not due to mistakes or careless errors. One student said "I'd get a low grade and I wouldn't know it [the content]." Another student said "if I had gotten a bad grade, then I would have meant that I hadn't really learned it." In reference to describing a "good" test, a student described it this way: "I can actually take my time and work out the problems. So those are what I would say reflect my grades the best."

Grades seemed to have both an intrinsic message, especially when a good grade was paired with effort, and an extrinsic dimension. Some students, for example, wanted good grades to avoid negative consequences at home, though this was more often true of tests and report card grades and not individual tests:

- At home, I normally get in big trouble if I bring a bad grade home, especially on a test or

report card. I'd be in a lot of trouble.

- [Pressure from] my mom. If I didn't do well, I would get more pressure….if I did well, I would be congratulated instead of pressured.

- My mom really expects me to get good grades.

- My parents always push me to do better.

- If I get a really low grade like a D or something, I just know I'm going to get punished.

- My parents expect a lot from me.

- It's like I get a D, I'm like oh no, oh no, my mom's going to totally freak.

Most of the students indicated that good grades from tests make them happy, especially when they have studied and put forth effort. Happiness from good grades was evidenced by the following:

- If I do a good job, I'm really happy

- When I got a 90 or above.

- When I get A's and B;s

- If I get an A+ or an A.

- When I get 100's, 90's or 80's.

- When I get like 100 or an A or a B.

- Like if I get from a B to an A+.

Interestingly, there were few comments about receiving feedback; only 33 responses were coded as "feedback." This low number of coded responses suggests that perhaps we did not stress and probe sufficiently, but the overwhelming message about feedback was that students saw a final result, typically a grade, and that was it. They rarely commented about receiving specific feedback or instructional correctives, or suggestions about what to do if answers were missed. It was as though students simply thought "ok, I got that wrong, what do I need to do?"

Or, "did I make a mistake?" That is, we saw very little, if any, evidence of formative

assessment, but we did not probe specifically for this. There was also no evidence of grading

according to rubrics or standards. It was pretty much "grading as usual." In addition, there were

very few comparisons with how other students performed, almost no peer comparisons (One

exception: "I just like being the best. It's just, when somebody is above, I'm like, I just, I don't

feel good until I'm above them.")

Mistakes/Being Wrong. There were several questions in the interview protocol that asked

students about what it meant to them when they receive results from an assessment and got

answers wrong, and how they thought about these results. The questions included words such as

"being wrong," "not doing well," and "mistakes" in an effort to capture a comprehensive

understanding of what the students were thinking. Overwhelmingly, students were keenly

interested in knowing results from all assessments, and learning about mistakes and being wrong

was a major focus.

The review of the transcripts resulted in 223 responses coded "mistakes/being wrong."

Overall, it was clear that the most frequent type of student response in this category was

relatively positive, focused on how the mistake or being wrong was fine because it indicated that

there was something more to be learned, that they needed to go back and get it right. It was also

clear that students were very interested in what mistakes they made, paying attention to what

questions they missed. One student, when asked what he would do when receiving a test with a

few wrong answers, said "I study those questions." Another student indicated "I would have

reviewed those mistakes." She went on to say "It means that I should review that question and

ask the teacher why I got it wrong."

Different students said "I get something wrong, I'm just like, okay, I got this wrong," and "if

I'm wrong, I can just learn from my mistakes." One interesting observation, then, is that the

affect associated with such mistakes is not usually overly negative, not something that is bad or undesirable. Granted, we interviewed a high number of students who were relatively high achievers, but the pattern was the same for students who did not receive high grades. Here are additional examples of the language students' used to describe their thinking and feelings about mistakes and being wrong:

- When I make a mistake, I always try, like on tests, especially, I try to go back and see what I did wrong.

- When I make big mistakes it's definitely something that I have to go over and review again.

- Sometimes it's good to get some wrong like because I feel like that if you get some wrong sometimes that it just works your brain even more.

- It depends on what question but I think it's okay to make a couple of mistakes.

Their emotional reaction was muted for most of the students, and also relatively brief. There was little indication of prolonged obsessing about mistakes. They used phrases such as the following:

- A little disappointed

- A little frustrated

- Kind of mad

- Not feeling the best

It was a rare occurrence when a student indicated intense negative reactions when asked about being wrong, but in these few cases the negative feelings were pronounced. For example, a student indicated "I feel like crying," and another said "horrible." While the minority of students felt this way, it was telling that such strong emotional language was used.

One very interesting finding was that the students differentiated "small" mistakes from

being wrong. Here is how one student described it: "If I make a silly mistake I get upset with myself. But if it's something I really didn't understand than I feel okay with it." Another student said "no one is perfect. And sometimes you make mistakes but it's the really big ones that matter." And student voiced it this way: "you make just those little mistakes that just, like, it's just annoying … when I make little mistakes that I shouldn't have made." The "small" mistakes bothered them, but only temporarily. Their language was mostly framed to indicate some distress but not something serious or long lasting. Here are examples of the phrases they used to describe these mistakes:

- Silly mistake

- Forgot to do something

- Accidently rushing

- Stupid mistake

- Little mistake

- Little things

It is important to note that these descriptions were internal, unstable attributions about being careless. With being wrong students also indicated primarily internal attributions, and this was mostly a result of a failure on their part to learn or study sufficiently. We found very few instances of external attributions when making mistakes or being wrong. These students accepted responsibility for their incorrect answers.

When we probed with students and asked them what it meant to them to be wrong, they usually referred to the need for additional study. One student said "if you get a question wrong, you know that you might not have learned that right and that you need to study more and work on that more." Others voiced "That I need to work harder and pay more attention," "I get something wrong, I'm just like, okay, I got this wrong, I'll just study harder on that, " "it means

that I have to study more," and "I'll just make sure I study harder so I'll get it next time."

Consistent with what Brookhart and Bronowicz (2003) conclude from their interviews with students about classroom assessment, there seemed to be a direct relationship between assessment and studying, suggesting that summative assessments trigger studying, and that this may be as important as the summative information provided. When coupled with mistakes and errors, further studying provides opportunities for self-regulation and effort internal attributions, which in turn affects self-efficacy and motivation (Brown, 2011; McMillan & Hearn, 2008).

In summary, these students, in the main, were keenly interested in their performance, wanted to know what they missed, accepted responsibility for their mistakes and errors, and wanted to review and study more to know the correct answers. There was little indication of formative assessment information, though this does not mean that it wasn't provided. Students very simply see right or wrong when they receive results, and act on this information. This contrasts with what Peterson and Irving (2008) found in their qualitative study of secondary students' conceptions of the purpose of assessment and feedback. In their study, feedback was explored in greater detail, showing that the nature of the feedback is important. While we did not find this to be true in our study, we did not explore feedback as extensively. Differences may also be developmental, with younger students focused primarily on wrong or right. When wrong, there was active intent for more learning, a form of self-regulation. In one sense, then, experiencing mistakes and being wrong may provide students with important opportunities for self-assessment, metacognition, and self-regulation, help develop persistence and grit, and result in enhanced achievement (Brown & Hirshfeld, 2008).

Our findings about mistakes and learning errors support the contention by some that making mistakes and being wrong is helpful for and perhaps essential to effective learning. The encouraging aspect of our findings is that, coupled with other research on the importance of

being incorrect, to some extent, for learning, being incorrect is also, in the main, viewed positively by students and used for further learning. Together, the research and our findings suggest that making mistakes and errors is very important to learning and motivation, and that students will respond positively when they realize they have incomplete knowledge.

Consequences

This part of the model refers to what occurs after students receive grades and learn about how well they did. We have touched on some of the action-oriented consequences, primarily studying more, as well as affect (e.g., temporary distress over mistakes; pride when receiving good grades in combination with effort). Here we will focus on motivational consequences related to attributions and goal orientation, with implications for self-efficacy.

Attributions. We coded over 170 instances of students' attributions. Attributions are defined as the reasons student ascribe to their academic performance or performance on school-related tasks and assessments (Weiner, 1985). Weiner postulates that individuals attribute success and failure to effort, ability, task difficulty, and luck, and that these attributions affect future success and failure (Mclure et al., 2011; Weiner, 1985, 2010). The students we interviewed often made specific attributions regarding their performance on assessments.

Students in our study attributed success or failure on assessments to a number of factors, but, very clearly, most often to themselves. One student explained, "Because if I got an A on the test, it would mean that I studied, and I worked hard and I knew the answers." The same student, when asked what it would mean if they performed poorly on an assessment, explained, "I guess next time I will just study harder and get it right." Often, students attributed poor performance or failure to not paying attention in class: "I learned, I just didn't pay attention." Another student said, "It means that I didn't really pay attention in class." Here the students seem to attribute failure to a controllable factor, paying attention in class. When specifically asked if failure on an

assessment was a reflection of the teacher, one student explained that the failure had more to do with her not paying attention, not the teacher: "...because that teacher is a good teacher, and I believe that."

In addition to attention, students often attributed success or failure on an assessment to effort and studying at home. One student explained, "I get something wrong, I'm just like okay, I got this wrong, I'll just study harder next time. I don't like to make a bid deal out of things." This student attributed a missed answer to a lack of effort in the form of studying rather, than ability, luck, or task difficulty (Mclure et al., 2011; Weiner, 1985, 2010). Interestingly, students differentiated between subjects that came easily to them, or for which they felt inherent ability, and those that did not, but still typically attributed success or failure to controllable factors such as effort. One student explained, "I do very well in reading because I read a lot." Another explained that he would be disappointed if he performed poorly in math because, "math is easy for me."

Most students viewed effort as a controllable dimension. That is, students felt they were in control of the level of effort they expended on an assessment or in preparation for an assessment. This is consistent with findings by Nicholls (1984) and Folmer and her colleagues (Folmer et al., 2008), in which late elementary to adolescent students viewed effort and ability as related but separate and that effort was a controllable, unstable factor in learning and performance.

However, not all students attributed success or failure to effort. When asked what doing poorly on a math benchmark would mean, one fifth grade student replied, "Makes me feel like I'm dumb." When asked what it meant when he got something wrong, the same student explained, "I just don't feel that smart." This child attributes failure in math to ability, and seems to hold a fixed view of ability and intelligence (Dweck, 1986). That is, this child views failure as

30

an indication that he is unintelligent. He also seems to view ability and intelligence as traits that cannot be changed, and therefore "fixed" (Dweck, 1986; Mclure et al., 2011). Children who view intelligence or ability as fixed and attribute academic performance, particularly failure, to ability, often have low intrinsic motivation and negative affect toward school (Malmberg & Little, 2007). However, most students in our study exhibited more adaptive attributions for success and failure, such as effort (Dweck, 1986; Mclure et al., 2011; Weiner, 1986, 2010). The preponderance of evidence that showed strong effort attributions may have been related to the nature of our sample, which tended to include good to excellent students.

Other students seemed to attribute success to both ability and effort. One student explained that doing well on a test, "...means a lot, means I'm smart, I listen in class." The same student continued, attributing some success to the external factor of teaching: "Because if you listen in class, good things come in return, so then if you listen, and then there's different stuff on the test but she...the teacher reminds you what's going to be on the test, it's pretty easy." Another middle school student: "I'm like, if you've given me the information, I'll work it out and I'll figure out how to do it." These students indicate that teachers provide the information in class, and if students listen they perform well on assessments. This suggests that even when teachers provide helpful information, most of the attribution is to effort.

In summary, we found mostly internal attributions to effort. Clearly, most students took responsibility for their performance. Effort attributions are important for the development of self-efficacy and self-regulation. When students are able to connect their efforts to performance it reinforces the perception that they are capable and are able to be successful. As they experience different levels of success that are coupled with effort, they are essentially self-regulating.

Goal Orientation. There was a fairly clear trend in the goal orientations of these students,

with a mastery or learning goal orientation much more important than performance orientations. At the same time, both orientations were almost always present, just dominated by a mastery orientation. It was a matter of how much each orientation was present, not a continuum of a single construct. We've illustrated this visually in Figure 4. The figure shows how students are characterized as having a mostly mastery or learning orientation, with some performance orientation, while a small percentage of students are dominated by a performance orientation.

The students we interviewed, on the whole, wanted to learn and understand, and thought the assessments were needed as a check on learning more than as an opportunity for an extrinsic reward. The combination was nicely illustrated by this student who indicated that getting good test results was "pretty important because well, (a) I won't get punished, (b) I'll have a good grade, and (c) I will like learn, like actually know that subject." Another student said "for my grade…but it was important to me because I like being right." The mix of goal orientations was clear in this comment as well: "It [not doing well] would have meant a lot because then I would be punished, I'd get a low grade, and I wouldn't know it." Other comments that illustrated the strong mastery orientation included the following:

- If I didn't pass any of them [tests], I could like not be as educated as I would need to be.
- [Tests show] how much you've learned and see like your weaknesses, if you need help or something.
- So we can learn what we need to do so when we're older we know what to do.

A few students did seem to be primarily performance oriented, sometimes to avoid negative consequences, but they were clearly in the minority. They said things like:

- Because then you get to go to a better college.
- I have a lot of stickers on my chart, a lot
- When mom sometimes says kick my butt, I'm like oh I definitely have to het an A on

this test or else she will actually do it.

- Real important so then I can play sports.

Summary

This investigation was designed to better understand elementary and middle school students' perceptions about classroom assessment, with a focus on motivational impacts. The voices of the students concerning their perceptions seemed to cluster into two components, those that were relatively stable and those related to the task, to specific assessment events. Perhaps most important, students' comments about testing and grading in general, as a stable trait, strongly suggest that assessment is viewed positively as a valid source of information about learning, even if they don't "like" them, and that it is a readily accepted part of schooling. Most of the respondents indicated that results from tests are accurate, expected as a normal and needed part of the culture of schooling, and helpful in showing what has and has not been learned. This generally positive view of assessment and the results from assessments was evident across gender, grade levels and ability. Few students feared or were overly anxious about assessment. Some students did show unhealthy anxiety toward assessment, but most indicated only some uneasiness.

Consistent with other studies, students generally attributed their less than satisfactory performance on assessments to lack of effort, or in their words, "not studying." There was little attribution to external factors. This healthy perspective was also evident for successful performances. With respect to goal orientation, there was clearly a mixed perspective, but the greatest emphasis was on a mastery orientation. Students wanted to learn as a result of assessment and valued assessment as a way of knowing if they had indeed learned the content. Grades were viewed similarly, as an indication of learning as well as something that provided additional incentives, such as preparing for and attending college, and avoidance of negative

consequences, such as parental disapproval. This suggests that goal orientation, at least in most of these students, may be not an either/or construct.

An interesting finding was that students seem to equate assessment difficulty mostly to length. While constructed-response assessments were generally viewed as more difficult than selected-response tests, longer assessments, especially if covering material learned in previous months, were seen as most difficult. As long as assessments were relatively short, and there was adequate preparation, they did not view them as particularly difficult. Shorter assessments, such as quizzes, were viewed more positively than tests covering more time because of the clear ability to connect their efforts in learning to their performance. This may suggest that there are greater benefits from taking more assessments that are shorter and closely linked to recent learning, than longer tests further removed from learning (of course students still need to demonstrate learning over long periods of time). Such shorter assessments, particularly constructed-response ones, may provide students with the best opportunities to link preparation to learning performance.

Another interesting finding concerned students' views on mistakes. "Small" mistakes, such as leaving out a step when solving a math problem, were viewed differently from not knowing. Questions graded as incorrect because of mistakes seemed to generate temporary negative affect, but no longer-term consequences. Students were not distressed if their answers were wrong due to a misunderstanding or not knowing concept, but motivated to study more to learn the content. Students also wanted to know why they were wrong. Parents played a significant role in helping students learn from their misunderstandings.

Few students were indifferent about how they did on their assessments. That is, most students exhibited a healthy investment in their performance on classroom assessments. They seemed to be most pleased by assessments that were fair and challenging. Results from such

assessments were meaningful to students, whether or not all answers were correct. Interestingly, students said little about feedback, and grading was very conventional. Somewhat surprisingly, there was little mentioned that could be interpreted as formative assessment. Classroom assessment for these students was essentially summative, but with strong implications for them that are important, such as correcting learning errors, reviewing incorrect answers, and making effort attributions. As such, summative assessment may provide much more than a simple documentation of what was learned. Perhaps summative assessment has been given a bad rap?

The results of this study have important implications for understanding how students perceive and use results from assessments to influence motivation and learning. The findings are consistent in many ways with Brookhart and Bronowicz (2003), the only other qualitative study of student perceptions of these age groups that we could identify, emphasizing student-centeredness, effort and study, and the importance of mastery goals, and with Peterson and Irving's (2008) qualitative study of high school students. The current study extends these findings with its emphasis on dispositions toward assessment more generally, with its focus on student mistakes. The findings are also consistent with quantitative studies of the importance students place on using assessments for learning (Alkharusi, 2011; Brown, 2011; Brown & Harris, 2012; Brown & Hirschfeld, 2008). The results are somewhat inconsistent with Brookhart, Walsh, and Zientarski's (2006) study of eighth grade students, perhaps reflecting changes as students grow older.

The overwhelming indication of students' use of assessments for learning and understanding, essentially a mastery orientation, supports the importance of this theory for motivation. What is interesting is that students did not see performance goal orientation as a separate or primary influence. Self-efficacy, on the other hand, was not evidenced as a significant influence, and we did not detect much related to self-regulation or student self-

35

assessment. Perhaps our questioning did not sufficiently probe these constructs, but effort and study seemed to be much more important than conceptions of competence. The model that has been postulated may help both researchers and practitioners better understand what elements of assessments and feedback will strengthen student resolve to improve and make effort attributions.

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Student Perceptions of Assessment Interview Protocol

Interviewer: _____

Date: _____

School: _____

Student ID: _____

Ability Code: _____

Did your mom (dad) go to college?
Did your dad (mom) go to college?

Part 1: Opening Questions
1. Tell me about what you like most about school?

2. What are your favorite subjects

Part 2: Testing in general
Do you get good grades in school?

3. Tell me about the types of tests you take?

4. What do you think about all these tests and other assignments you have to take?

Probes:
Do you like them? Why or why not?
Do you think you could have school without them?
What kinds of tests make you nervous?
What types of tests give you the best idea of what you really know or don't know?
How do they make you feel?
What do you think about SOL tests?
What types of tests are the easiest? Why? What types are the hardest?

5. What does it mean to you (how do you feel) when you get back results from a test?

Probes:
How do you feel?
When are you happy with your results?
What does it mean when you get something wrong?
How do you feel?

Are results usually accurate?
Do results tell how much you have learned?
Do you feel pressure to be right all the time?
How important is it to you to get good test results?

6. What kids of tests or assignments show best what you have really learned?

Part 3: Questions related to a specific assessment (e.g. "formative," quiz, chapter test, paper, benchmark, end-of-year):
Now I'd like you to think about a specific _____.
   7. How well did you want to do on this _____? Why?
   8. How important was it for you to do well on this _____?
   9. How hard was the _____ for you? Was the material difficult or just a lot to learn?
   10. How hard did you try to do well?
   11. What would doing well on the _____ mean to you?
   12. What would doing poorly on the _____ mean to you?
   13. Would doing well on the _____ mean that you really learned a lot? Why or why not?

Was it ok to make mistakes on the _____?

Figure 1. Interview Protocol.

Code	Number of Quotations
Accountability tests	172
Accuracy	24
Anxiety/nervous	150
Attitudes	112
Attributions	178
Constructed-response	66
Content area	212
Difficulty	234
Effort	226
Essay	34
Feedback	72
Grades	242
Happiness	68
Length	57
Mastery orientation	37
Mistakes/being wrong	223
Multiple-choice	93
Parent/home	31
Peer comparison	31
Performance assessment	38
Performance orientation	98
Perceived competence	42
Preparation	30
Pressure	50
Pride	21
Quiz	39
Shame/bad feelings	49
Teacher	52
Test	100
Test strategies	37
Validity	107
Value of tests	221

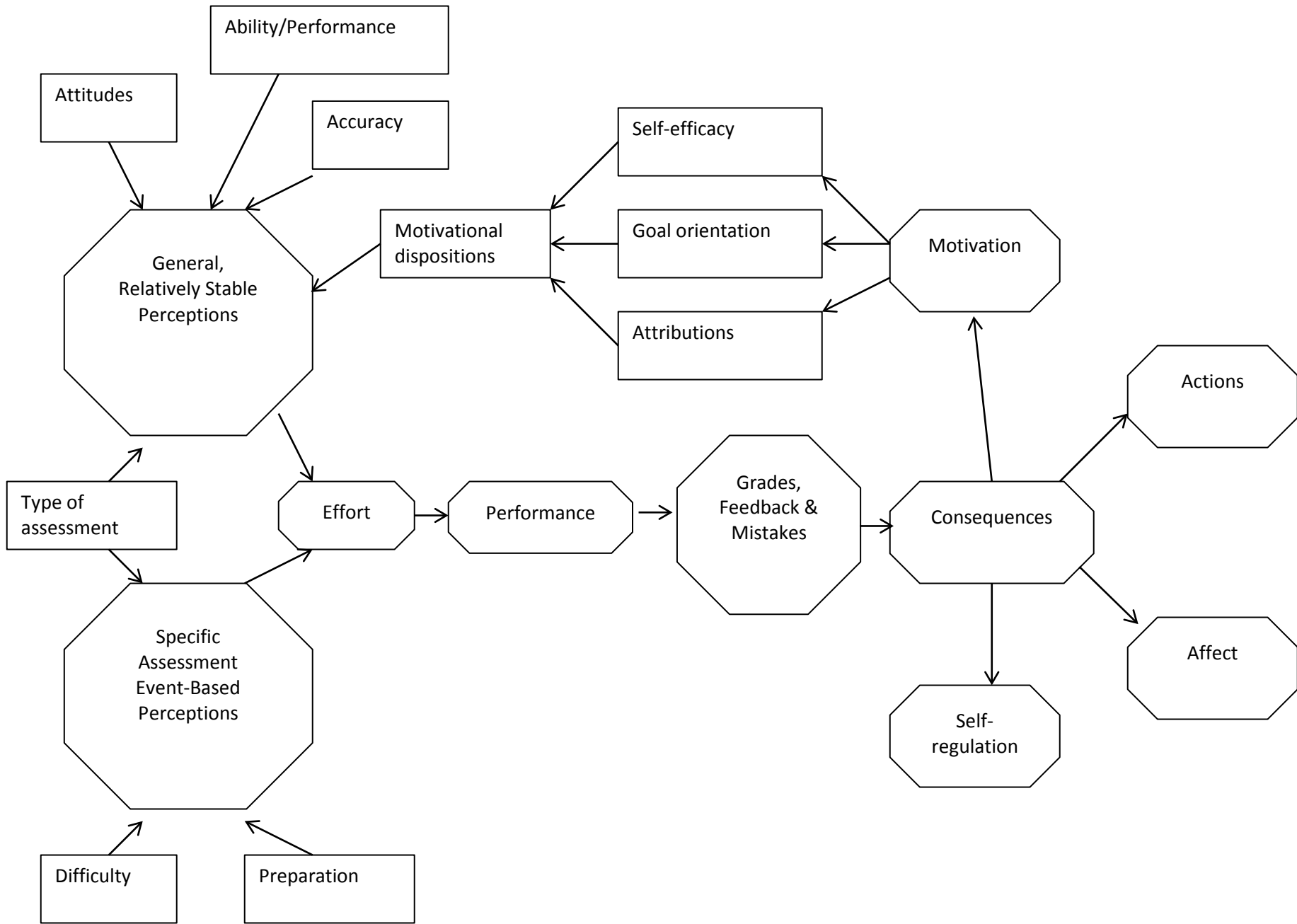Figure 2. Code Names and Number of Quotations

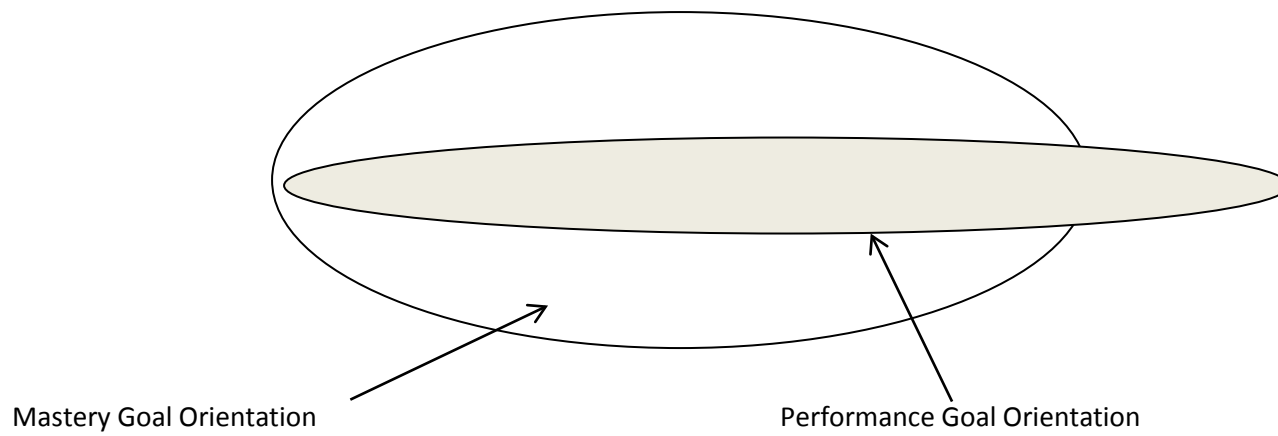Figure 3. Student Perceptions Toward Classroom Assessments and Related Consequences

Figure 4. Mastery and Performance Goal Orientation Emphasis.