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## Negative Effects of Standardized Testing

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Negative Effects of Standardized Testing

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LS 400

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### Abstract

This Capstone Project focused on the negative effects of standardized testing and the alternatives. The participants for this project consisted of 32 third-graders in a public elementary school located in Southern California. This project consisted of having all the third-grade students organize their own portfolio in mathematics, with a focus on fractions and shapes, as an alternative to standardized testing. In this way, the students have the control of their grade rather than having a long, cumulative test at the end of the year. This can alleviate the stress of standardized testing for students and teachers. After conducting the project, students showed enthusiasm about being in control of their grade and deciding which assignments go into the portfolio to be graded on. This connects to teaching because this could be a potential alternative to standardized testing, taking away anxiety for both students and teachers.

*Keywords:* standardized testing, anxiety, elementary students

### Literature Review

Standardized testing has been around for hundreds of years. It was first implemented in the United States in the 1800s and was given in the form of an oral examination. In 1845, a man named Horace Mann decided to change this oral exam into a written test (Huddleston & Rockwell, 2014). He believed that this would be a more effective and efficient way to assess the education of young elementary aged students. This type of testing became appealing to the public school system in the early twentieth century because of the systematized and reliability that the testing seemed to offer (Huddleston & Rockwell, 2014). The testing also allowed the schools to separate the low scoring students from the high scoring students (Huddleston & Rockwell, 2014). This shed light on an issue with teachers and how efficiently they were educating their students. Standardized testing also became a way for making important decisions with teachers as to who deserved promotions and who did not (Huddleston & Rockwell, 2014).

The purpose of standardized testing is “to provide fair, valid and reliable assessments that produce meaningful results” (Purpose of Standardized Tests, n.d., para 1); instead it has turned into a stress case for both students and teachers alike. Administration is putting the pressure on teachers to raise their scores in order to look better as a school (Morgan, 2016). They are being bribed with raises and threatened with termination. Since this is happening, the teachers are now putting pressure on the students to perform well (Morgan, 2016).

### **Student Anxiety**

The main issue that needs to be addressed is the anxiety young students are facing because of these standardized tests. “Test anxiety is a type of state anxiety (i.e., context-specific) specific to testing situations that impacts a student's performance on the test, thus inhibiting the test score as an accurate reflection of academic knowledge and skill” (Ergene, 2003, para, 4).

There have been numerous studies focused around students' test anxiety during standardized testing (Segool, Carlson, Goforth, Van der Embse, & Barterian, 2013; Wood, Hart, Little, & Phillips, 2017; Moon, Brighton, & Callahan, 2002). A study conducted by Segool et al. (2013) shows how students' anxiety raises from classroom testing to high stakes testing such as standardized tests. They found a group of 335 elementary aged students from grades 3rd through 5th to participate in their study (Segool, et al., 2013). The researchers collected their data by using two scales, which were the Children's Test Anxiety Scale (CTAS) and the Behavior Assessment Scale for Children, Second Edition (BASC-2-BA). These were administered to the students right after they had finished their high-stakes testing and were administered the same scales two weeks later after completing a general classroom test. The results show an increase in anxiety around standardized testing compared to classroom testing (Segool, et al., 2013). Having a little test anxiety is normal, but for young students to be having high anxiety because of the pressure to do well on standardized testing is not healthy (Wood, Hart, Little, & Phillips, 2017). Wood, et al. (2017) found that 10%-40% of students had some sort of test anxiety. In a study done by Moon, Brighton, & Callahan (2002), similar results were found. Moon et al. (2002) interviewed students who were part of the "gifted" program at their school and they expressed that there was even more pressure put on them because they were above their grade level in intelligence. One student talked about how since the rest of his or her grade fell behind the average, it was up to the gifted students to pick up the slack in order to raise the class's average score. Another study also interviewed students who were not in the gifted program and had similar responses of having anxiety. In a study done by Ryan, K., Ryan, A., Arbuthnot, & Samuels (2004), a student stated, "Well usually, when I take tests in the beginning when I used to take them, I feel like oh! I was more relaxed for it so I scored higher but now like we prepare

two weeks ahead of time it's more like I'm more nervous when I first take it" (p. 9). It has been shown that students who are struggling in areas such as reading comprehension, they are more likely to perform poorly on the test (Wood, et al., 2017).

What are the consequences of test anxiety around standardized testing? A study conducted by Paris, Lawson, Turner, & Roth (1991) suggests that the consequences affect students long term. Younger students are optimistic and rely only on support from their teachers and rewards to feel that they are doing well and progressing. By the time students are in middle school, their attitude towards their progress relies solely on their test scores and their grades (Paris, Lawson, Turner, & Roth, 1991). This shapes how they feel about themselves (Paris, Lawson, Turner, & Roth, 1991). When given a survey to both younger and older students, there were differences in their responses. The younger students believed that testing truly reflected how much they were learning, their intelligence, and where they needed to improve (Paris, Lawson, Turner, & Roth, 1991). While the older students expressed that the test scores determined if they were a good student and reflected how intelligent they are or not (Paris, Lawson, Turner, & Roth, 1991).

### **Impact on Teachers**

Up until the 1970s, standardized testing had limited effect on the structure and curriculum of the classroom (Moon, Brighton, & Callahan, 2002). In the last three decades, there has been an increase of importance on standardized testing and a lot of funding has gone into the teaching of what is on the assessment (Moon, Brighton, & Callahan, 2002). Students are not the only ones who are affected by standardized testing; teachers are being affected as well (Morgan, 2016). Teachers are being put under scrutiny over their class's scores, which is affecting their curriculum and teaching methods (Morgan, 2016). For teachers who have underscoring students

and need to raise the class's average score, teachers are turning to methods such as memorization and drilling tactics (Morgan, 2016). This leaves little room for students to learn, but in this teaching style, they are more likely to score well on the standardized testing (Morgan, 2016). This interference of teaching standardized testing takes away teacher's creativity, takes up the majority of class time, and causes anxiety among teachers as well (Mulvenon, Stegman, & Ritter, 2005). Teachers have also expressed that not only is standardized testing getting in the way of their teaching, but it has negative effects on their students such as poor self-confidence in low-scoring students, taking away student creativity, lowers student motivation, and test anxiety (Mulvenon, et al, 2005). Mulvenon, et al. (2005) conducted a study to see if teacher's beliefs and attitudes towards standardized testing affected the scores of their students on testing, but found no significant relationship between the two.

Moreover, teachers are being put into a very tough situation when it comes to standardized testing (Moon, Brighton, & Callahan, 2002). The value-added measurement system, also known as VAM, is made to assess the teachers based on their students' performance on the standardized tests (Morgan, 2016). This is how some teachers can earn bonuses if their class scores well on the assessment, and how some teachers are at risk of termination if their class scores poorly. Because of this VAM system, teachers are trying to get the higher scoring students into their class to help raise the class's average score, while also trying to avoid getting students with special needs and students who are English-language learners because they tend to bring down the class's average score (Morgan, 2016). Moon, Brighton, and Callahan (2002) suggest that teachers in low-socioeconomic status schools were more impacted on standardized testing than teachers who taught in high-socioeconomic status schools. The researchers interviewed teachers about their feelings toward how teaching has been affected by standardized testing

(Moon, et al., 2002). One teacher responded, "...They're having to make up tests and to use the strategies that are the way that are tested, instead of teaching all of the other stuff around it. Not the big picture, just this limited view..." (Moon, et al., 2002, p. 16). Another teacher interviewed in this study said that nearly 95% of the work taught in her class is aimed around the preparation of the standardized tests. With this much of the curriculum focusing on the standardized testing, it is hurting the students who are in the gifted programs. Teachers are using repetition, worksheets, and memorization in order to ensure the students know all the information before taking the standardized tests (Moon, et al., 2002).

There has been evidence to suggest that because of the risk of termination or possibility of a bonus, teachers are becoming competitive about raising their test scores (Morgan, 2016). This means that teachers are less likely to collaborate with one another on teaching strategies because they want to receive the bonus over other teachers. Since there is this tension between teachers, it will fail to improve the overall learning environment and students will be unable to perform to their highest potential (Morgan, 2016). The most destructive result that standardized testing has had on teachers is the cheating (Morgan, 2016). There have been legal cases where teachers were caught erasing students' incorrect answers and marking the correct ones in order to raise their scores (Phelps, 2011; Morgan, 2016). Morgan (2016) provides an example from 2013 where Atlanta Public Schools where there were 23 employees, including the superintendent, that were charged with changing the scores on the tests in order to better the overall average.

### **Evaluation of Options**

Standardized testing is not the only type of assessment that can evaluate the progress of learning and education. One alternative to standardized tests is computerized adaptive testing. This type of computer-based testing gives students a personalized test based on how they answer



each question. The test, for example, will start by giving the student a question that has an average level of difficulty. If the student answers correctly, the questions will increase in difficulty, and if they answer incorrectly, the questions will get easier. Not only does this form of testing reduce the amount of time and money spent on standardized testing, it is fairer for the students because it is personalized around them, resulting in more accurate scores (Assessment Measures for Good Measure, n.d.)

Another option that could be an alternative to standardized testing is portfolio-based assessment. Rather than having a huge, lengthy test at the end of the year, students will collect their work throughout the school year and put it together in a portfolio. The materials included in the portfolio would contain tests, projects, and homework. According to Briggs (2015), portfolio-based assessments, “...seek to give a richer, multidimensional picture of students’ capabilities by assembling a body of work” (para 23), and the evaluators can see the actual progress of each student. This way, students can show more than just their knowledge, but also their abilities and talents. This type of assessment was implemented in 28 schools throughout New York in grades 6th through 12th, and results show that the students in these schools had higher graduation rates and higher chances of staying in college (Briggs, 2015). This type of assessment has not been implemented in California, but could lead to similar results.

The last option that can be implemented in place of standardized testing is stealth assessment. In this form of assessment, textbook companies and other companies like Dreambox put together software that records every answer from every student (Briggs, 2015). Students can play games while being tested simultaneously (Shute & Ventura, 2013). This way, students can focus on many smaller assessments rather than a lengthy, cumulative test given at the end of

each school year. This alternative would take away cost, give class time back to the students and teachers, and most importantly, help eliminate student test anxiety (Briggs, 2015).

| <b>Criteria →</b>                 | <b>Cost</b> | <b>Reasonableness</b> | <b>Time</b> |
|-----------------------------------|-------------|-----------------------|-------------|
| <b>Alternatives ↓</b>             |             |                       |             |
| <b>Portfolio-Based Assessment</b> | <b>3</b>    | <b>3</b>              | <b>2</b>    |
| <b>Stealth Assessment</b>         | <b>2</b>    | <b>3</b>              | <b>3</b>    |
| <b>Adaptive Testing</b>           | <b>1</b>    | <b>3</b>              | <b>3</b>    |

### **Capstone Project**

After conducting this literature review, my capstone project will be to conduct a portfolio-based assessment in mathematics in a 3<sup>rd</sup> grade classroom as an alternative to standardized testing. The teacher I have been working with has been collecting her students' math assignments and tests and has put them aside until I get in the classroom. Once the collecting of assignments is complete, I will go into the classroom and have set aside 1-2 hours of class time. I will explain to the students that they are going to choose their best work and put them together in a portfolio that I will provide for each student. When the students have complete picking out their assignments, I will collect them and grade them using a grading scale that I will put together.

### **Conclusion**

Standardized testing has been the only way for states to evaluate student education for nearly 200 years. Standardized testing has shown to increase test anxiety in young students,

decreases student self-confidence, and puts pressure on students to perform well for their teachers (Morgan, 2016; Mulvenon et al., 2005). Teachers are suffering from unfair situations where if their class's score is poor, they can be threatened with termination, but if their class performs well, they can be awarded a bonus (Morgan, 2016). Teachers are also losing time in the class to be creative and teach because classroom time is being taken up by preparation for the standardized testing. Teachers are turning to memorization tactics and even worse, cheating, to help raise class test scores (Morgan, 2016). Students and teacher are both suffering from this method of educational assessment, but there are multiple alternatives to help resolve this issue.

### **Project**

Standardized testing has been used as a way of evaluating student education for nearly 200 years. After conducting research, standardized testing has been seen to heighten test anxiety among elementary-aged students and put increased stress on to teachers. Teachers are losing time in the classroom to teach creatively in order to prepare their students for standardized testing to ensure they perform well. Students are being put under pressure to perform well by their teachers because administration is putting pressure on their teachers. Rather than preparing for hours of testing, an alternative to standardized testing is a portfolio-based assessment where students will organize a portfolio of their assignments and tests to show their progression throughout the school year.

For this project, students were given the chance to make their own portfolio in mathematics with a focus on fractions and shapes. Students were given their completed assignments and then decided which assignments would go into their portfolio to be graded. This paper will review where the project was conducted, how the project was conducted, and the results of the project.

**Design**

For this capstone project, third-grade students organized a portfolio of their math work with a focus on fractions and shapes. In this way, students can show their progress throughout a lesson rather than being tested on everything through standardized testing at the end of the year. This will hopefully take away the stress of testing and have a more relaxed way of showing their progression in mathematics. The public school that this project was conducted at is located in a high socioeconomic status environment in Southern California. The school will be addressed as California Elementary. Their vision for the school is to provide quality learning in all classrooms so all students can thrive and have life long learning. Parental support in this school is minimal because the parents are all considered to be high socioeconomic status, so they work long and hard hours. The third-grade teacher who assisted in this project, Mrs. A, notified me that she believes that it is the staff's duty to make sure that all students have a sense of belonging in the classroom in order to help all students thrive. Part of the school's mission statement is respect, which goes both ways to students and teachers alike. Having this mentality in a school is important so students can feel comfortable in the classroom and help them succeed.

**Implementation**

The project started with the teacher entering the classroom and explaining to the students what will happen. The explanation stated that the students were expected to go through their classwork that they have completed in class and at home. In this project, students are put in control of their grade and allowing them to decide which assignments they prefer to have graded. All assignments will be from mathematics with a focus on fractions and shapes. The teacher explained to the students that they needed to include at least one assignment from fractions and one assignment about shapes, not just focusing on one single section of mathematics. In this way,

the portfolio would be well rounded and show a student's understanding in all sections of the lesson and not just one section that they were better at. The fractions portion of their mathematics showed their understanding of fractions by using line graphs, bar graphs, and differentiating between what fractions were greater or less than another fraction. Here is an example of what a student turned in as part of the fraction portion of their mathematics lesson.

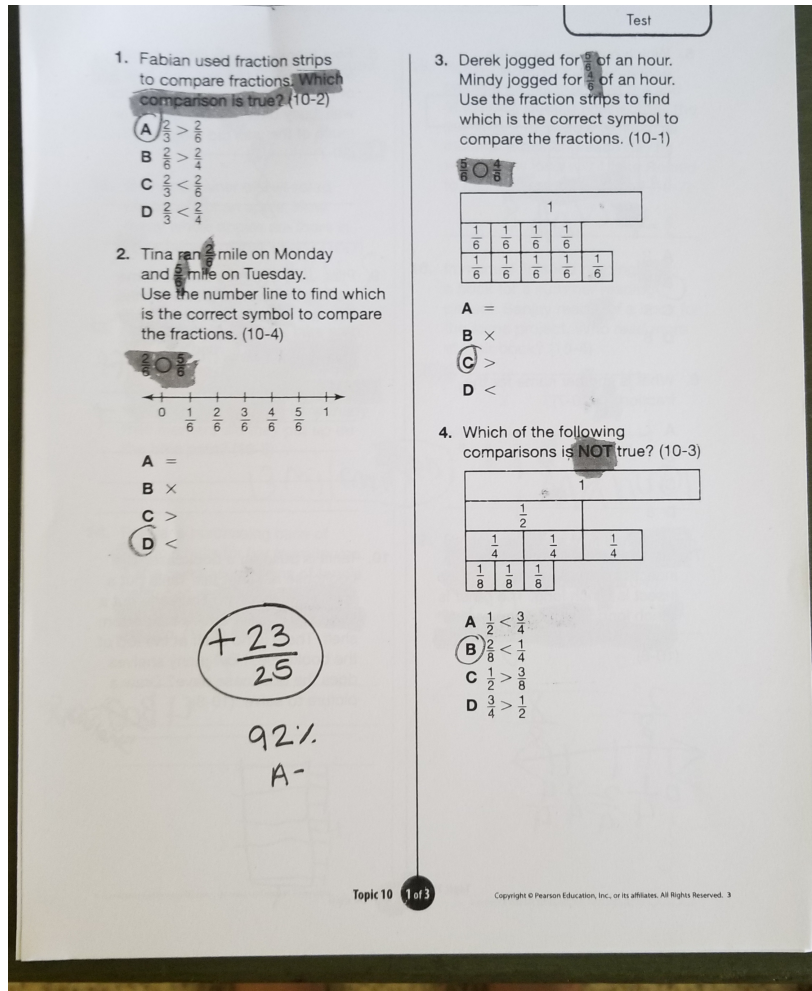


Figure 1. Student example of a fraction assignment turned in for their portfolio.

For the shapes portion of their mathematics lesson, students showed their understanding of shapes. Students had to show their understanding of the differences and similarities of different shapes. Other assignments about shapes showed an understanding of how to find the

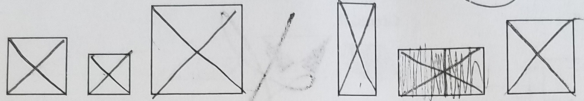
perimeter of a given shape. The following evidence is an example of a shapes assignment completed by a student.

Name \_\_\_\_\_ Practice 11-3

### Classifying Shapes

For 1-2, use the two groups below to answer the questions.

**Group 1** **Group 2** (+8)

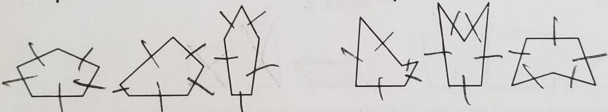


1. Tell one way the shapes in Group 1 and 2 are different and one way they are alike.  
 Group 1 is all squares and group 2 is all Rectangles. Both groups have 4 sides and 4 vertices. They are all Quadrilaterals.

2. Which larger group of polygons do all of these shapes belong? Quadrilaterals

For 3-4, use the two groups below to answer the questions.

**Group 1** **Group 2**



3. Tell one way the shapes in Group 1 and 2 are different and one way they are alike.  
 Different - Group 1 has convex shapes and group 2 has concave shapes.  
 Same - They have 5 vertices and 5 sides. They are Pentagons.

4. Which larger group of polygons do all of these shapes belong? pentagon

5. **Writing to Explain** What characteristics help you tell the difference between a rhombus and a rectangle? Explain.  
 A rhombus has 4 equal sides and a rectangle does not.

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Figure 2. Student assignment of a shape assignment that shows an understanding of shapes' similarities and differences.

The students were handed back their work and took 5-6 assignments of their best work that they felt comfortable being graded on. They were provided with folders to put all of their work in, which were collected at the end of the lesson. The teacher walked around the classroom to help students if they needed it, though most students did not need any help. The students were asked at the end of the project if they enjoyed putting together their portfolios and if they would

prefer this as an alternative to standardized testing. A hand full of students were asked to volunteer to take a multiple choice survey on the questions previously given to the class and if they felt that the portfolio-based assessment was more or less stressful than taking state standardized tests. After the teacher collected all of the students' portfolios, they were graded based on a grading rubric put together by the teacher. The grading rubric consisted of four grading criteria: fractions, shapes, content, and reflection.

| <b>Grading&gt;<br/>Criteria V</b> | <b>Proficient (3):<br/>Clear understanding of material</b> | <b>Efficient (2):<br/>Understands most material</b> | <b>Novice (1):<br/>Little to no understanding of material</b> |
|-----------------------------------|--|---|---|
| <b>Fractions:</b>                 |  |   |   |
| <b>Shapes:</b>                    |  |   |   |
| <b>Content (accuracy):</b>        |  |   |   |
| <b>Reflection (growth):</b>       |  |   |   |

### **Evaluation**

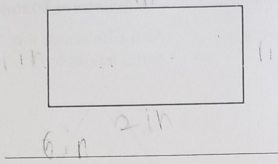
The students showed enthusiasm while organizing their portfolios. The students seemed excited that they were the ones in charge of what they were being graded on. The students did not need much help putting together their portfolios because they knew which assignments they did better or worse on. Being in control of their assignments and grade seemed like they were much more relaxed because they did not need to anticipate a test with questions they were not sure if they knew or not. Having the knowledge that they knew what assignments they did well and preparing a portfolio made them appear excited and independent. Here is an example of a good assignment chosen by a student to put in their portfolio.

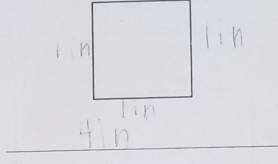
Name \_\_\_\_\_

Practice  
**13-2**

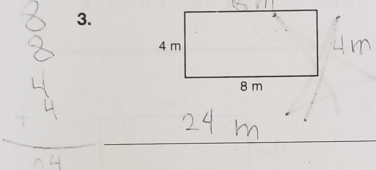
### Perimeter of Common Shapes

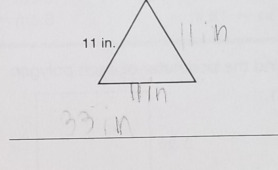
Use an inch ruler to measure the length of the sides of each polygon. Find the perimeter.

1. 

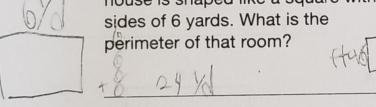
2. 

Find the perimeter of each shape.

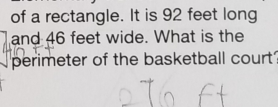
3. 

4. 

5. The largest room in Lauren's house is shaped like a square with sides of 6 yards. What is the perimeter of that room?



6. The basketball court at Johnson Elementary School is in the shape of a rectangle. It is 92 feet long and 46 feet wide. What is the perimeter of the basketball court?



7. A square has 9-inch sides. Every side of a pentagon is also 9 inches long. Are their perimeters the same? Explain your answer.

*they are not the same because a pentagon has 5 sides and square has 4 sides*

8. What is the perimeter of a hexagon that has equal sides of 12 inches?

A 60 inches    B 66 inches    **C 72 inches**    D 84 inches

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Figure 3. Student example of a good assignment included in their portfolio.

With all projects, there are always challenges. For this project, there were criteria that should have been mentioned during the explanation to the students. In the assignments the students got back, some of them were packets. Although most students included their packets, a few students did not. It should have been mentioned at the beginning of the project to include at least one packet in the 5 to 6 assignments being put into their portfolios. Next time, the teacher should meet with the students' third-grade teacher to look over the assignments they are giving



back in order to know what the teacher wants in the portfolios. Another challenge faced in this project was that some students included poor work in their portfolios. Some students did not fully understand that the teacher was taking these portfolios to grade them, even though the teacher's grading was not going to affect their grades. Next time, the teacher should make it clear to the class that these assignments, although not affecting their grade, were to be graded by that teacher for research purposes. Here is an example of a student assignment turned in that should not have been included in their portfolio.

me \_\_\_\_\_

11. Julie painted  $\frac{2}{4}$  of the fence around her house. What are two other ways to name  $\frac{2}{4}$ ? (10-5)  
 $\frac{1}{2}$

12. Every container of fruit salad contains  $\frac{1}{3}$  of an apple. How many whole apples are there in 6 containers of fruit salad? (10-7)  
 $\frac{6}{3} = 2$

13. The county built a new bike path. The bike path is 12 miles long. They put up mile markers at the start and end of the path, and for every mile in between. How many mile markers did they put up on the bike path? (10-8)  
 $\frac{12}{1} = 12$   
 1 2 3 4 5 6  
 12 12 12 12 12 12

14. Felicia is purchasing cans of 3 tennis balls for her team to use. If she purchases 5 cans of tennis balls, can she use addition to find out how many balls she has? Explain. (10-8)  
 $5 \times 3 = 15$   
 you have to  
 count by  
 3's

15. Ronald spent the day making a painting for his friend. At the end of the day, Ronald finished  $\frac{1}{4}$  of the painting. If he is able to finish as much of a painting each day he works, how long will it take Ronald to make 2 whole paintings? (10-7)  
 $\frac{2}{\frac{1}{4}} = 8$

16. Immanuel finished reading  $\frac{3}{4}$  of a book for a summer reading project. Sanjay read  $\frac{3}{6}$  of a book for the same project. Who read more of their book? (10-4)  
 $\frac{3}{4} > \frac{3}{6}$   
 Immanuel

17. Patrick ate  $\frac{2}{3}$  of a fruit bar. Write an equivalent fraction for the amount of fruit bar Patrick ate? (10-6)  
 $\frac{4}{6}$

Topic 10 3 of 3  
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Figure 4. Student example of a poor assignment to include in their portfolio.

### **Reflection**

The goal of this project was to relieve the stress caused by standardized testing for both students and teachers. Standardized testing has been used in the United States for more than 200 years as a way to evaluate students' learning. In recent years, however, this high-stakes testing has been used to evaluate teachers' performance, which puts pressure on them to make sure their students perform well. With this added pressure on teachers, they are also putting the pressure on their students. This project of a portfolio-based assessment was meant to reduce test anxiety for students and teachers by giving them an alternative to evaluate students' learning.

Standardized testing takes up to a week of class time to fully carry out. With portfolio-based assessment, it will only take up about a full day of class. For this project, the organizing of portfolios only took up a hour and a half of class time. It would have been beneficial to have an entire day of class dedicated to this portfolio-based assessment, but the teacher could not spare an entire day of class to this project. For the first 20 minutes of the assessment, the instructor explained to the students what was going on and what was to be expected of them. The instructor stated that rather than a test, they were going to be assessed by organizing a portfolio of their math work to be graded later on. The instructor made it clear that this was not going to affect their grade in any way, but to make sure they include their best work in their portfolios. The mathematics work that they had done over the previous month was focused on shapes and fractions. The instructor handed back all of their work and told them they needed to include 5-6 assignments and had to include at least one fractions worksheet and one shapes worksheet. The instructor then gave the remainder of the class time to the students to organize their portfolios and walked around to answer any questions they may have had. Students were enthusiastic that they were the ones in control of their grade, and that there was no test involved to evaluate their

learning. At the end of the project, the instructor collected all of their portfolios and asked the class if they enjoyed organizing their portfolios and if they would prefer this over standardized testing. The students all responded that they enjoyed organizing their portfolios and that they would prefer it over testing. A handful of students were then asked to fill out an anonymous, three-question survey that asked the same questions verbally asked of the class and if it was more or less stressful than testing.

The first limitation of the project was the amount of class time that the instructor had with the students. Although it does not take long for the students to organize their portfolios, it would have been nice to have three or more hours so that the students could get a more in depth explanation of what was expected of them. Another limitation found while conducting the project was the fact that there were homework packets that were handed back that the instructor did not know about. Although most students included at least one packet, it would have been nice to know beforehand so that the instructor could inform the students they must include at least one packet each. Lastly, the instructor had to change the community partner later on, which caused a hiccup in the conduction of the project. The initial community partner was a private school, but they could not get the parents' consent for the instructor to take their work and the fact that private schools differ from public schools. The community partner the instructor ended up working with was in Southern California, which is six hours away from where the instructor lives, so it was harder to work with the teacher from such a great distance.

### **Recommendations**

Although the project went smoothly, there are areas that can be improved upon for future implementation. First off, the instructor should make sure their community partner is on board with the project as soon as possible to help ensure they do not need to change community

partners later on. This caused a lot of last minute changes to the instructor's project, resulting in less time to work with the teacher of the classroom they were working with. Because of this, the instructor did not have time to work one-on-one with the teacher. It is recommended that the next person implementing this project be working closely with the teacher so that the project can be easily conducted. Since the community partner was far away in this project, the instructor did not have a chance to review the students' work before conducting the project. Another recommendation is to go through the students' work prior to conducting the project so that they know exactly what they want from the students. For example, the instructor did not know that there were packets along with worksheets in the work that was given back to the students. Had the instructor gone over the students' work with the teacher beforehand, the instructor would have known to ask the students to include at least one packet each in their portfolios.

Another recommendation to future implementers is to try and work with the teacher to have more class time to conduct the project. Since the community partner changed last minute, the instructor had to accept the time slot they were given. If another person implements this project, they should make sure to establish a relationship with the teacher in order to help better their chances to have at least three hours of class time to carry out this portfolio-based assessment. Lastly, a great recommendation to help improve the project is to have an example portfolio to show the class and pass around to give them a visual of what is expected of them. Young students can really benefit from a visual aid, especially for this project. Third-grade students typically have never put together a portfolio before so they probably have never seen one or know what it looks like. Including an example portfolio would be very beneficial for future implementation.

**Future Plans**

The idea of portfolio-based assessment can be an alternative to more than just standardized testing. After conducting the project, it was clear how much students enjoyed putting together portfolios and having control over their own grade. With this in mind, it is possible to conduct this type of assessment in multiple subjects for other areas aside from standardized testing. An idea that can be implemented into the classroom would be to have the students organize their own portfolios before “Back to School Night” where all the parents come to talk to the teacher and see the classroom. The teacher can have the students put together a portfolio before this to show their parents how they have been doing so far in the school year. This could be an easy way for students to learn how to put together a portfolio while also showing their parents or guardians their strengths in the classroom.

Another way that portfolio-based assessment could be used in the classroom is at the end of the year project. Although standardized testing is still mandatory throughout the country, a portfolio could be a way to show the students and their parents or guardians how much they have improved throughout the year. This can help students by taking away test anxiety and working with assignments they have already completed to show their best work. This would put them in control of their grade and show them how well they have done throughout the entire school year.

**Conclusion**

The purpose of this project was to alleviate test anxiety for students and stress for teachers that come with standardized testing. This portfolio-based assessment gives an alternative way to measure student learning throughout the year without giving students a lengthy test at the end of each school year. Students were asked to organize a portfolio of their

mathematics work involving shapes and fractions as an alternative assessment. The students seemed to enjoy having control of their grade and what was being graded of their previous work. This took away any type of test anxiety, as there was no test involved.

Although the project went well, there are always areas that can be improved. It is important to have a reliable community partner to work with so that there is no change in site later on. It is also important to have a relationship with the teacher you are working with to guarantee class time dedicated to the project as well as going over what assignments are being given back so you know what to ask of the students. Overall, the project went very well and helped shed light on alternatives to all types of testing in all subject areas.

## References:

Adaptive testing | Computerized adaptive testing, educational assessment | Assessment systems.

(n.d.). Retrieved from [http://www.assess.com/adaptive-testing/?nabe=5447296772997120%3A1&utm\\_referrer=https%3A%2F%2Fwww.google.com%2F](http://www.assess.com/adaptive-testing/?nabe=5447296772997120%3A1&utm_referrer=https%3A%2F%2Fwww.google.com%2F)

Briggs, S. (2015, November 20). 8 alternatives to high-stakes standardized tests. Retrieved from

<https://www.opencolleges.edu.au/informed/features/8-alternatives-to-standardized-testing/>

Ergene, T. (2003). Effective interventions on test anxiety reduction a meta-analysis. *School*

*Psychology International*, 24(3), 313–328. doi:10.1177/01430343030243004

[https://journals.sagepub.com/doi/abs/10.1177/01430343030243004?casa\\_token=W15iELx-uEEAAAAA:-jTCk-1wgz-YL6qd9BfW8FSqyI8ntp9NuVAEfxh88-7nrhX4nVjmCQb9fgdooGqihLQ1HLdX6xw14A](https://journals.sagepub.com/doi/abs/10.1177/01430343030243004?casa_token=W15iELx-uEEAAAAA:-jTCk-1wgz-YL6qd9BfW8FSqyI8ntp9NuVAEfxh88-7nrhX4nVjmCQb9fgdooGqihLQ1HLdX6xw14A)

Great Schools Partnership, (2015, November 12). Standardized test definition. Retrieved from

<https://www.edglossary.org/standardized-test/>

Huddleston, A. P., & Rockwell, E. C. (2014, November 30). Assessment for the masses: A historical critique of high-stakes testing in reading. Retrieved from

<https://eric.ed.gov/?q=state%2Bstandardized%2Btesting%2Bprograms&pr=on&id=EJ1110955>

Moon, Tonya R., Brighton, Catherine M., Callahan, Carolyn M. (2002, March 31). State standardized testing programs: friend or foe of gifted education?. Retrieved from

<https://eric.ed.gov/?id=ED463300>

Morgan, H. (2016, June 2). Relying on high-stakes standardized tests to evaluate schools and teachers: A bad idea. Retrieved from

<http://www.tandfonline.com/doi/full/10.1080/00098655.2016.1156628>

Mulvenon, S. W., Stegman, C. E., & Ritter, G. (2005, March 1). Test anxiety: A multifaceted study on the perceptions of teachers, principals, counselors, students, and parents.

Retrieved from

<http://eds.a.ebscohost.com.library2.csumb.edu:2048/ehost/detail/detail?vid=0&sid=9c393640-0509-42f8-8f2a-0b2f68e3cb2e@sessionmgr4009&bdata=JnNpdGU9ZWwhvc3QtbGl2ZQ==#AN=16024768&db=aph>

Paris, S. G., Lawson, T. A., Turner, J. C., & Roth, J. L. (1991, June 1). A developmental perspective on standardized achievement testing. Retrieved from

<https://www.jstor.org/stable/pdf/1176397.pdf>

Phelps, R. P. (2011). Teach to the test? Most of the problems with testing have one surprising source: cheating by school administrators and teachers. *The Wilson Quarterly*, (4), 38.

Purpose of Standardized Tests. (n.d.). Retrieved March 12, 2019, from

[https://www.ets.org/understanding\\_testing/purpose](https://www.ets.org/understanding_testing/purpose)

Ryan, K. E., Ryan, A. M., Arbuthnot, K., & Samuels, M. (2007, January). Students' motivation for standardized math exams. Retrieved from

[https://www.researchgate.net/publication/255580079\\_Students'\\_Motivation\\_for\\_Standardized\\_Math\\_Exams](https://www.researchgate.net/publication/255580079_Students'_Motivation_for_Standardized_Math_Exams)



Segool, N. K., Carlson, J. S., Goforth, A. N., Von der Embse, N., & Barterian, J. A. (2013, May).

Heightened test anxiety among young children: Elementary school students' anxious responses to high-stakes testing. Retrieved from

[https://www.researchgate.net/publication/275959518\\_Heightened\\_test\\_anxiety\\_among\\_young\\_children\\_Elementary\\_school\\_students%27\\_anxious\\_responses\\_to-high-stakes\\_testing](https://www.researchgate.net/publication/275959518_Heightened_test_anxiety_among_young_children_Elementary_school_students%27_anxious_responses_to-high-stakes_testing)

Shute, V., & Ventura, M. (2013, March). Stealth assessment. Retrieved from

<https://mitpress.mit.edu/books/stealth-assessment>

Vogelaar, B., Bakker, M., Elliott, J. G., & Resing, W. C. (2016, November 17). Dynamic testing and test anxiety amongst gifted and average-ability children. Retrieved from

<http://eds.b.ebscohost.com.library2.csumb.edu:2048/ehost/detail/detail?vid=0&sid=ef355c70-d91d-4f54-9b78-4c9745aae056%40pdc-v-essmgr06&bdata=JnNpdGU9ZWwhvc3QtbGl2ZQ%3d%3d#AN=121164618&db=aph>

Wood, S. G., Hart, S. A., Little, C. W., & Phillips, B. M. (2017, April 21). Test anxiety and a high-stakes standardized reading comprehension test: A behavioral genetics perspective.

Retrieved from <https://muse.jhu.edu/article/656756>

APPENDICES

## Appendix A

**5 Step Lesson Plan: Creating a Portfolio**

**Total Lesson Time:** approximately 1 hour

**Learning Objective:** Students will organize a fractions portfolio.

**Standards Alignment:** Common Core Standards for Mathematics in Grade 3: (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes.

**Lesson**

**Lesson Overview:** This lesson will be given to 3rd graders to show their understanding of mathematics. Students will organize a portfolio of their math work in fractions and shapes. The students will be given back their assignments of fractions and shapes that has already been completed at another time. They will then choose their best work of about 5 to 6 assignments and compile them into a portfolio to be graded on.

**Implementation (approximately 1 hour):** Since these 3rd grade students are getting ready to start their standardized testing, this was the the perfect time to teach them on how to organize a portfolio as a possible alternative. Their 3rd grade teacher explained that learning fractions is one of the more challenging learning standards for students, so for the students to decide which assignments gets graded and which assignments do not is ideal. The teaching strategy used was guided learning. Students did not ask other classmates for help because they needed to decide individually what they wanted to put in their portfolio. The teacher will walk around and answer questions to help students decide what to include in their portfolio.

**Procedure:** The teacher will start by explaining to the students what a portfolio is and how they are going to organizing their own. The class will be handed back all of their assignments in mathematics that have to do with fractions and shapes. The teacher will grab a few assignments of another students and show the class how one assignment would not be considered to put in the portfolio if they received a poor grade and how another assignment would if they received a good grade. The teacher will then explain how the students are the ones who are in control of what assignments they get graded on. The students will then start to pick and choose which assignments they want in their portfolio and which ones they do not want in their portfolio. The teacher will go around and help students that need more individualized attention and answer any questions the students may have. After students have completed deciding which assignments they want to be added to their portfolio, they will then organize their portfolio in the order that they completed those specific assignments from the beginning of the chapter to the end. After all portfolios are collected, students will be asked if they enjoyed putting together their portfolios and if they would prefer creating portfolios to taking standardized testing. Some students who volunteer will be asked to answer an anonymous, 3 question, multiple choice survey on the same questions asked to the class, and an additional question asking if they feel that the portfolio-based assessment was more or less stressful than taking state standardized tests.

**Materials and Resources:** assignments already completed in a different class period, and folders to put their work in

**Standards and Assessments:** The 3rd grade Common Core Standards in mathematics that the students will be working on are: (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes.

After completing their portfolios, the teacher will collect them and grade them. The teacher has made up a grading rubric in order to fairly assess their learning in mathematics of fractions and shapes. The grading rubric is as follows:

| <b>Grading&gt;<br/>Criteria V</b> | <b>Proficient (3):<br/>Clear understanding of material</b> | <b>Efficient (2):<br/>Understands most material</b> | <b>Novice (1):<br/>Little to no understanding of material</b> |
|-----------------------------------|--|---|---|
| <b>Fractions:</b>                 |  |   |   |
| <b>Shapes:</b>                    |  |   |   |
| <b>Content (accuracy):</b>        |  |   |   |
| <b>Reflection (growth):</b>       |  |   |   |

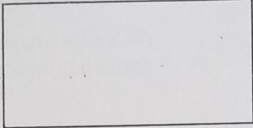
Appendix B

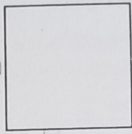
Name \_\_\_\_\_

Practice  
**13-2**

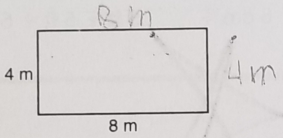
**Perimeter of Common Shapes**

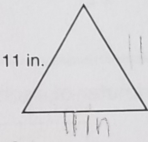
Use an inch ruler to measure the length of the sides of each polygon. Find the perimeter.

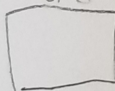
1.   
\_\_\_\_\_

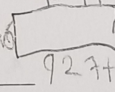
2.   
\_\_\_\_\_

Find the perimeter of each shape.

3.   
\_\_\_\_\_

4.   
\_\_\_\_\_

5. The largest room in Lauren's house is shaped like a square with sides of 6 yards. What is the perimeter of that room?  
  
\_\_\_\_\_

6. The basketball court at Johnson Elementary School is in the shape of a rectangle. It is 92 feet long and 46 feet wide. What is the perimeter of the basketball court?  
  
\_\_\_\_\_

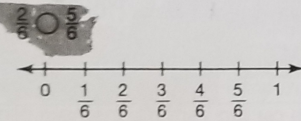
7. A square has 9-inch sides. Every side of a pentagon is also 9 inches long. Are their perimeters the same? Explain your answer.  
they are not the same because a pentagon has 5 sides and square has 4 sides

8. What is the perimeter of a hexagon that has equal sides of 12 inches?  
A 60 inches    B 66 inches    **C 72 inches**    D 84 inches

1. Fabian used fraction strips to compare fractions. Which comparison is true? (10-2)

- A  $\frac{2}{3} > \frac{2}{5}$
- B  $\frac{3}{5} > \frac{4}{5}$
- C  $\frac{2}{3} < \frac{2}{5}$
- D  $\frac{2}{3} < \frac{4}{5}$

2. Tina ran  $\frac{2}{6}$  mile on Monday and  $\frac{5}{6}$  mile on Tuesday. Use the number line to find which is the correct symbol to compare the fractions. (10-4)

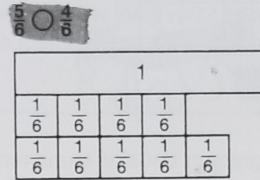


- A =
- B  $\times$
- C  $>$
- D  $<$

$$\begin{array}{r} + 23 \\ \hline 25 \end{array}$$

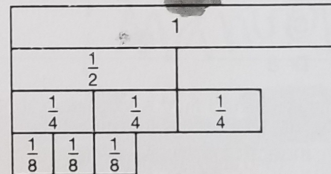
92%  
A-

3. Derek jogged for  $\frac{5}{6}$  of an hour. Mindy jogged for  $\frac{4}{6}$  of an hour. Use the fraction strips to find which is the correct symbol to compare the fractions. (10-1)



- A =
- B  $\times$
- C  $>$
- D  $<$

4. Which of the following comparisons is NOT true? (10-3)



- A  $\frac{1}{2} < \frac{3}{4}$
- B  $\frac{2}{8} < \frac{1}{4}$
- C  $\frac{1}{2} > \frac{3}{8}$
- D  $\frac{3}{4} > \frac{1}{2}$

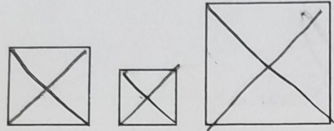
Name \_\_\_\_\_

Practice  
11-3

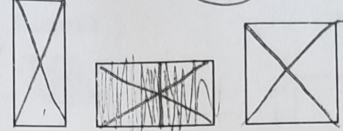
**Classifying Shapes**

For 1-2, use the two groups below to answer the questions.

Group 1



Group 2



+8

1. Tell one way the shapes in Group 1 and 2 are different and one way they are alike.

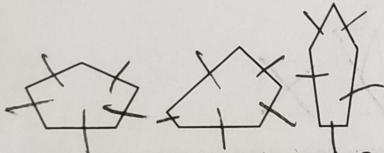
Group 1 is all squares and group 2 is all rectangles. Both groups have 4 sides and 4 vertices. They are all quadrilaterals.

2. Which larger group of polygons do all of these shapes belong?

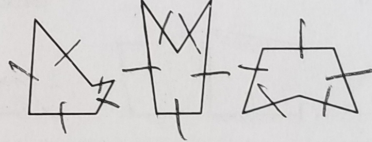
Quadrilaterals

For 3-4, use the two groups below to answer the questions.

Group 1



Group 2



3. Tell one way the shapes in Group 1 and 2 are different and one way they are alike.

Different - Group 1 has convex shapes and group 2 has concave shapes.

Same - They have 5 vertices and 5 sides. They are pentagons.

4. Which larger group of polygons do all of these shapes belong?

pentagon

5. **Writing to Explain** What characteristics help you tell the difference between a rhombus and a rectangle? Explain.

A rhombus has 4 equal sides and a rectangle does not.





Time \_\_\_\_\_

11. Julie painted  $\frac{2}{4}$  of the fence around her house. What are two other ways to name  $\frac{2}{4}$ ? (10-5)

$\frac{1}{2}$

12. Every container of fruit salad contains  $\frac{1}{3}$  of an apple. How many whole apples are there in 6 containers of fruit salad? (10-7)

$\frac{6}{3} = 2$

13. The county built a new bike path. The bike path is 12 miles long. They put up mile markers at the start and end of the path, and for every mile in between. How many mile markers did they put up on the bike path? (10-8)

$\frac{12}{1} = 12$

1 2 3 4 5 6  
12 12 12 12 12 12

14. Felicia is purchasing cans of 3 tennis balls for her team to use. If she purchases 5 cans of tennis balls, can she use addition to find out how many balls she has? Explain. (10-8)

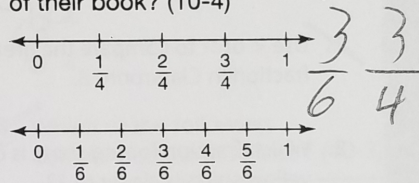
$5 + 5 + 5 = 15$

you have to  
count by  
5s

15. Ronald spent the day making a painting for his friend. At the end of the day, Ronald finished  $\frac{1}{4}$  of the painting. If he is able to finish as much of a painting each day he works, how long will it take Ronald to make 2 whole paintings? (10-7)

$\frac{2}{\frac{1}{4}} = 8$

16. Immanuel finished reading  $\frac{3}{4}$  of a book for a summer reading project. Sanjay read  $\frac{3}{6}$  of a book for the same project. Who read more of their book? (10-4)



$\frac{3}{4}$  Sanjay

17. Patrick ate  $\frac{2}{3}$  of a fruit bar. Write an equivalent fraction for the amount of fruit bar Patrick ate? (10-6)

$\frac{4}{6}$