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## The Impact of the “Failure is not an Option Policy” on Student Grades

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### Abstract

Benjamin Bloom, well known for his Bloom’s Taxonomy, coined the term “mastery learning”. Bloom’s process of mastery learning involved initial instruction, assessment, feedback, and corrective instruction. Various researchers demonstrated success with a mastery learning model at the elementary, middle school, high school, and community college levels. Based on the idea of mastery learning, a rural high school developed and implemented a “Failure is not an Option Policy”. The purpose of this study was to determine the impact of the “Failure is Not an Option Policy” at a rural high school on student grades. The program evaluation found the policy improved students’ test grades by at least 16 points and impacted students’ test grades in a majority of the departments. A chi-square analysis found that there was a statistically significant difference between the retake scores of the students who participated in a review session and the students who did not participate in a review session.

Benjamin Bloom viewed the process of education differently from others in the field of education psychology. He thought that students should not be compared using norm-reference, but they should receive instruction to master the curriculum (Eisner, 2000). Although Bloom is known for his Bloom’s Taxonomy, he studied the effect of individual differences on school learning. Based on his research, Bloom felt that teachers could have the strongest impact on student learning (Guskey, 2007). This suggestion has been supported by the Social Development Theory of Vygotsky and his Zone of Proximal Development, which allows the learner to use support and scaffolding from an adult to advance his or her knowledge and skills (Vygotsky, 1978).

After examining other early pioneers in individualized instruction (e.g., Dollard & Miller, 1950; Morrison, 1926; Washburne, 1922), Bloom concluded that most teachers do not use their classroom assessments, both

formative and summative, as learning tools. In other words, the assessment procedures were used to confirm the delivery of instruction – not whether the students actually mastered the content (Guskey, 2007). In addition, Bloom realized that students master the objectives within the curriculum at different paces. His solution was the process which he coined as mastery learning. It involved initial instruction, assessment, feedback, and corrective instruction (Bloom, 1968; Bloom, 1971; Guskey, 2005). As evidence to support his process of mastery learning, Bloom pointed to highly successful adults and claimed these individuals were not child prodigies but products of guided and nurtured learning (Eisner, 2000).

Bloom’s process of mastery learning begins with initial instruction of the unit’s content. The unit typically includes 1 to 2 weeks of instructional content. As the teacher provides the instruction, he or she

will use formative assessments to determine the students' progress toward mastering the content. These formative assessments can include, but are not limited to, quizzes, projects, oral presentations, and performance tasks. After determining whether the mastery level was reached, the teacher will provide corrective instruction and reassessment for those students who did not master the content. For those students who mastered the content during the initial instruction period, the teacher will offer enrichment or extension activities (Guskey, 2007). According to Bloom (1968), there are numerous strategies for implementing mastery learning, but the strategy should deal with the individual learning differences of the student.

In the literature, the research that examines the use of Bloom's process of mastery learning appears to be limited. Whiting, Van Burgh, and Render (1995) gathered 36 semesters of data from a marketing education program in a mid-western high school. The researchers found that the involvement of 7,149 students in mastery learning increased the students' test scores and grade point averages in the courses taught with mastery learning. Likewise, Anderson et al. (1992) found similar results with elementary and middle school students. In addition, these researchers noted increased self-confidence after the use of mastery learning (as cited in Guskey, 2007).

At the college level, Yopp and Rehberger (2009) examined a pilot study that incorporated the components of mastery learning, including learning objectives, repeated testing, and rubric-based feedback. The 32 participants were enrolled in four sections of a pre-algebra course that was considered a below college level. Using a treatment and control group design, the researchers found that the final exam scores for the treatment group were, on average,

five points higher than the control group, which was a statistically significant difference. Based on these findings, the researchers concluded that the implementation of mastery learning could have a positive impact on the traditional classroom.

The purpose of this study was to determine the impact of the "Failure is Not an Option (FNO) Policy", which was based on the idea of mastery learning, on student test grades in a rural high school. To evaluate this policy, the following research questions were used: (a) Did the students who retook their assessments improve their assessment scores?; (2) Did the change in assessment scores differ by department?; and (c) Was there a difference with the change in assessment scores between the students who participated in a review session and the students who did not participate in a review session?

## **Method**

### **Participants**

The selected participants were enrolled at a rural high school, which is part of a school district that contains 3 high schools, 3 middle schools, and 14 elementary schools. The high school, with Grades 9 through 12, had a total enrollment of 1,355. The gender classification is 48% male and 52% female. The racial makeup of the school is 53% White, 43% Black, and 4% who classify themselves as belonging to other racial groups. Six and a half percent of the students receive special education services. Forty-eight percent of the students are eligible for free or reduced meals. In 2008, the graduation rate was 70.6%, which exceeds the district graduation rate of 68.9% but falls below the state graduation rate of 75.4% (The Governor's Office of Student Achievement, 2008).

## IMPACT OF THE FNO POLICY

### **Intervention Activities**

The high school piloted the FNO Policy for the school system. The policy stated that any student who scored less than 70% on a major assessment was required to retake the assessment at least once. The only exception to this policy was the assessments administered in Advanced Placement courses. Within each department, a retake administrator coordinated the retake sessions unless directed by the teacher of record. Retake sessions were scheduled for Tuesdays and Thursdays after school. Students were encouraged, but not required, to participate in review sessions prior to retaking the assessments. Mondays and Wednesdays were designated as review session days. On these days, the student could work with his or her teacher or with a teacher who supervised the tutoring sessions within each department.

When the assessment was returned to the student, he or she completed a simple contract with the teacher of record and selected four possible retake dates. A copy of the contract was given to the student, teacher of record, and retake administrator. From the date that the assessment was returned to the student, the student had 2 weeks to retake the assessment. If the student did not retake the assessment within the allotted time, he or she was referred to the appropriate administrator, who assigned the student to an in-school suspension retake session. If a student scored 70% or greater on the original assessment, then he or she could opt to retake the assessment using the same procedures. In addition, if a student chose, he or she could continue to retake the assessment as many times as needed to improve his or her score to the desired level within the same semester.

### **Data Collection Procedures**

At the beginning of each semester, the principal sent a blank spreadsheet with

column headings to each certified staff member via email. The column headings included student's name, teacher's name, class period, course title, assessment type, assessment title, original score, date of original assessment, retake score, date of retake assessment, exceptionality, and participation in a review session. At the end of each semester, the certified staff members were instructed to submit the spreadsheet that contained the itemized information for each retake to the main office via email. An administrative assistant for the school compiled the data into a master spreadsheet. The researcher requested and received the master spreadsheet for each semester via email from the principal.

### **Outcome Evaluation**

#### **Research Question 1**

A series of frequency and descriptive analyses were conducted to determine the difference between original and retake scores. Across eight departments, a total of 2,163 retakes were administered during the first semester and 3,580 retakes during the second semester. Thus, the average student at the high school retook approximately two assessments during the first semester and approximately three assessments during the second semester. The school had an increase of 65.51% in the number of retakes from first to second semester. This difference could be contributed to more students participating in the program and/or consistency in record keeping procedures.

For first semester, mean difference for the school was 18.03 points. Using the school's grading policy, the average student could improve his or her final course grade as much as 7.35 points by retaking assessments in a given course. For second semester, the mean difference for the school was 16.82 points. The average student could improve his or her final grade by 6.73 points. The improvements in assessment

scores were similar between the two semesters. Hence, a student could increase his or her final grade in a given course as

much as one letter grade. Table 1 displays the original and retakes scores by semester and department.

Table 1  
*Original and Retake Scores by Semester and Department*

Department	<i>n</i>	<u>First Semester</u>			<i>n</i>	<u>Second Semester</u>		
		Original	Retake	Difference		Original	Retake	Difference
English	311	54.50	73.19	18.69	483	49.16	72.40	23.24
Math	572	55.23	57.01	1.78	930	54.67	59.97	5.30
Science	765	52.34	60.68	8.34	1045	50.16	57.57	7.41
Social Studies	317	53.13	70.16	17.03	790	63.97	60.91	-3.06
CTAE	18	43.28	75.78	32.50	60	56.97	69.40	12.43
PE	56	54.36	75	20.64	8	50.38	58.14	7.76
Foreign Language	108	52.45	74.94	22.48	140	50.16	69.16	19.00
Fine Arts	16	47.63	70.40	22.77	124	0	62.45	62.45
Total	2163	51.26	69.63	18.03	3580	46.93	63.75	16.82

### Research Question 2

A series of frequency and descriptive analyses were conducted to determine the differences among the eight departments (See Table 1). The number of retakes within a department ranged from 16 to 765 for first semester and from 8 to 1,045 for second semester. The greatest number of retakes was administered in the science department for the first and second semesters. The least number of retakes was administered in the fine arts department for the first semester and in the physical education department for the second semester. This variation in the number of retakes could be contributed to the content and assessment within each department.

The difference between the original and retake scores ranged from 1.78 to 32.50 for the first semester and from -3.06 to 62.45 for the second semester. The largest difference

occurred in the CTAE department for the first semester and in the fine arts department for the second semester. The smallest difference for first semester occurred in the math department and for second semester in the social studies department. These differences could be related to the course content and/or the consistency of the record keeping procedures within each department. The FNO policy had a great impact on the students' test grades in the majority of the departments.

### Research Question 3

A chi-square analysis was conducted to determine the statistical difference between participation in a review session and change in assessment scores after retaking the assessment for each semester. As a follow-up, individual chi-square analyses were conducted with the frequencies of increased,

## IMPACT OF THE FNO POLICY

decreased, and unchanged scores and with participation in a review session. A criterion of .05 for the  $p$ -value was established as statistically significant. A criterion of .10 for phi coefficient ( $\phi$ ) was established as meaningful.

For the first semester, with 2,057 cases, there was a statistically significant and meaningful difference between participation in a review session and change in the assessment scores ( $\chi^2 = 34.01$ ;  $\phi = .13$ ;  $p < .001$ ). There was a statistically significant difference between participation in a review session and the number of unchanged assessment scores ( $\chi^2 = 7.84$ ;  $p = .01$ ). There was a statistically significant difference for the number of increased assessment scores ( $\chi^2 = 26.80$ ;  $p < .001$ ) and for the number of decreased assessment scores ( $\chi^2 = 96.63$ ;  $p < .001$ ).

Second semester analyses, with 3,081 cases, yielded similar results ( $\chi^2 = 119.21$ ;  $\phi = .20$ ;  $p < .001$ ). There was a statistically significant difference between participation in a review session and the number of unchanged assessment scores ( $\chi^2 = 52.56$ ;  $p < .001$ ). There was a statistically significant difference for the number of increased assessment scores ( $\chi^2 = 62.76$ ;  $p < .001$ ) and

for the number of decreased assessment scores ( $\chi^2 = 286.07$ ;  $p < .001$ ).

If the student retook an assessment, then that student was more likely to increase his or her assessment score. By participating in a review session, for the first semester, 76% of the students improved their scores an average of 15.83 points compared to 64% of the students who did not participate in a review session and who improved their scores an average of 7.72 points. For the second semester, 79% of the students improved their scores an average of 15.99 points by participating in a review session compared to 64% of the students who did not participate in a review session and who improved 8.97 points. The majority of the students did not participate in a review session before retaking an assessment for either semester; however, for the first semester, 68.98% of the students who retook assessments increased their scores, and, for the second semester, 66.28% of the students increased their assessment scores. Thus, two-thirds of the students who retook assessments increased their scores regardless of participation in a review session. Table 2 displays the frequencies for the change in assessment scores and for the participation in a review session by semester.

Table 2

*Frequencies for Change in Assessment Scores and Participation in Review Session by Semester*

	<u>First Semester</u>				<u>Second Semester</u>			
	<u>Review</u>		<u>Without Review</u>		<u>Review</u>		<u>Without Review</u>	
	n	%	n	%	n	%	n	%
Increased	612	76.21	807	64.35	842	79.06	1200	59.52
Decreased	155	19.30	383	30.54	182	17.09	678	33.63
Unchanged	36	4.48	64	5.10	41	3.85	138	6.85
Total	803	100.00	1254	100.00	1065	100.00	2016	100.00

*Note:* Frequencies may vary depending on available data.

### Discussion

The results of this program evaluation support the continued implementation of the FNO Policy at the high school and the implementation of Bloom's process of mastery learning in a traditional classroom. Nearly the entire student body participated in the policy at least twice during the school year. On average, the students increased their assessment scores from 16 to 18 points. This increase could potentially increase the students' final course grade as much as one letter grade if they scored less than 70% on the original assessment. By participating in a review session, the students were more likely to increase their assessment scores than those students who did not participate in a review session if they scored less than 70% on the original assessment. Change in assessment scores varied by department, but these differences could be contributed to varying content and assessment procedures and/or consistency of record keeping procedures.

The following recommendations are intended to improve the data collection procedures. There were inconsistent recordkeeping procedures along with incomplete data in numerous cases across departments. To improve record keeping procedures, (a) determine how to code review sessions conducted in class and those review sessions conducted after school, (b) determine how to gather complete data from all teachers, (c) determine whether to include those students who missed the major assessment due to absence or disciplinary suspension, (d) determine a procedure for recording scores for those students who retook assessments in the in-school suspension retake sessions, and (e) determine a procedure for those students who retook an assessment in class and whether that retake should be included in the spreadsheet.

Future research could incorporate these suggested data collection procedures and the FNO Policy to determine if the implementation of mastery learning could improve student learning across multiple settings (i.e., elementary, middle school, and high school). Furthermore, future research could determine if mastery learning could serve as an instructional strategy to increase standardized test scores across multiple settings. Based on the findings of this program evaluation, the issue warrants future investigation.

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## IMPACT OF THE FNO POLICY

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