

The Influence of Signature on Research Survey Return Rates

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This study was designed to explore the impact of signature on survey return rates. Surveys that had been signed by two different individuals, a college dean and a college instructor, were sent to 48 school administrators. A chi-square analysis was conducted to determine the percentages of packets that were returned and who had signed the packets, which were returned. The results indicated that the relationship of the signer to the survey participant does not increase return rates.

Data is an essential element of conducting research. Without it the research is unable to provide hard evidence to support a researcher's conclusions. When a survey is used to gather data in a research project, it is extremely important that these surveys are returned to the researcher. The more surveys that are returned to a researcher, the more valid are the results that can be drawn from them. Given this, multiple studies have examined means for increasing the return rate of surveys.

Previous studies have considered various methods for causing study participants to return more surveys. Scott (1961) examined the effects of using follow-up letters or reminders and found that doing so increased the participants' response rate. A similar study by Watson (1937) looked at the importance of postage type. He concluded that regular postage stamps brought a better response than metered postage. Brown (1966) looked at the size of survey sent out and discovered that a two-question postcard resulted in higher return rates than a two-page questionnaire. Handwritten thank-you notes at the bottom of letters and a more personalized mailing package increased the response rate in a study conducted by Maheux, Legault and Lambert (1989). Church (1993) looked at the effect of reward on response rate. He established

that reward regardless of whether it was monetary or non-monetary significantly increased the response rate of participants.

The past research on survey return rates has not considered the impact of signature on survey return rates. The purpose of the present study is to consider it because signature may also affect return rates. If this is established, survey researchers should also consider whom they ask to sign letters prior to sending out surveys while also accounting for the other variables that were found to increase return rates in previous research.

It was hypothesized that survey letters, which were signed by a college instructor, would be returned at a higher rate than those signed by a college dean. Participants who received the letter signed by an instructor were expected to return the survey more often due to the personal relationship formed between the instructor and the participant. If the participants received a letter signed by a college dean, they were predicted to return fewer surveys because of the impersonal or lack of relationship between the dean and the participant. Such findings would suggest that signature and relationship to the signer affect return rates of surveys.

Method

A sample of 48 secondary school administrators was drawn from rural schools. The sample was randomly divided into two groups of 24 participants each. Both groups received a packet of a letter and a three-page survey in the mail, however different individuals signed the letter sent to each group. One group received letters signed by a college dean. The other group received letters that were signed by a college instructor.

The materials used in the present study consisted of a four-page packet. The first page was a letter describing the included survey and signed by the appropriate person according to their group assignment. It requested the participant to sign the letter indicating their consent to

participate in the study and to return the letter and attached survey to the researcher within two weeks of the date it was received. The second page was a survey questionnaire, which asked for the completion of demographic information. The third and forth pages consisted of a survey that included a total of 30 questions about handling conflicts related to the position of school administrator.

The return rate was calculated four weeks prior to the date when the surveys were originally mailed by the researcher to allow time for the surveys to arrive, be completed by the participants, and return in the mail. The number of packets that were returned were separated by signature and counted. The results were recorded in a spreadsheet broken into columns by participant id, whether or not the participant's survey was returned, and who signed the participant's survey packet. The percentage of surveys returned that were signed by the dean or the instructor were then compared to see if signer impacted survey return rates.

Results

A chi-square analysis with correction for continuity was conducted to determine the percentages of packets returned and who had signed the packets that were returned. The number of total surveys mailed out, the number of surveys returned, and the percentages of surveys returned which were signed by a college dean or a college instructor are shown in Table 1.

Table 1

Total Surveys Mailed, Number of Surveys Returned, and Percentage of Surveys Returned Signed by College Deans and College Instructors

Signed By	Total Surveys	No. Returned	% Returned
College Dean	24	10	41.67%
College Instructor	24	15	62.50%

The difference between the two percentages (41.67% vs. 62.50%) is not significant, *chi-square*(1, N = 48) = 1.34, $p > .05$.

Discussion

The hypothesis that survey letters signed by a college instructor would be returned at a higher rate than those signed by a college dean was rejected by the results of the present study. There was no significant difference in the return rates of surveys signed by an instructor versus those signed by a college dean. The conclusion implies that relationship with the letter signer does not make it more likely that a study participant will return a survey used in a study. Therefore, researchers need not seek out a person the participants would likely know personally to sign the letter accompanying surveys. As concluded by Scott, it would be more useful to send a follow-up letter or reminder to increase response rate (1961).

Future studies on response rates and signature could take a variety of directions. A researcher might combine signature with a technique known to increase response rates. For example, compare a group receiving personalized and signed letters with one only receiving personalized letters. It could also consider different letter signers, such as, a stranger versus someone the person knows. Finally, signature may be completely unrelated to return rates, therefore, making it more practical to examine another factor that could potentially increase survey return rates.

References

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The Impact of Class Size on the Effectiveness of Mastery Learning

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The present study was designed to examine the impact of class size on the effect size of Mastery Learning. A meta-analysis was performed on twenty-five research articles to determine the size of the classes in which the Mastery Learning teaching method was used. A Pearson correlation was computed to determine if there was a relationship between the effect size of Mastery Learning and class size. The results showed a significant negative correlation indicating that when class sizes are small the effect sizes of Mastery Learning will be large ($p < .05$).

Educators are constantly seeking out means for improving instructional methods. An example of a method that has consistently proven to be highly effective is Bloom's Mastery Learning instructional approach (Block & Anderson, 1975). In various studies, researchers (Block and Burns 1976; Guskey and Pigott 1988; Kulik, Kulik, and Bangert-Drowns 1990) have established the effectiveness of the Mastery learning Method through measurement using criterion-referenced and teacher-made tests. Kulik, Kulik, and Bangert-Drowns (1990) reviewed 36 articles and reported the effect sizes of Mastery Learning in each. Positive effect sizes were found for 34 out of the 36 articles. The effect size is computed using a formula developed by Glass, McGaw, and Smith (1981) and Light and Pillemer (1984).

Previous studies looking at Mastery Learning have considered the relationship between effect size and a variety of other variables. For example, Laney (1999) compared and combined the Mastery Learning and Cooperative Learning teaching

methods. He found that first and second graders studying social studies show the highest effect size when the two teaching methods are used in conjunction. Kulik et al. (1990) found that effect size depends on the content of the course with social sciences having a higher effect size than math or natural science. In a meta-analysis of studies considering the impact of using technology in developmental education, Brothen (1998) found that technology enhances learning more when combined with the Mastery Learning teaching method. When passive means of teaching using technology are used, the effects are similar to teaching students with the traditional lecture method. Researchers have examined the relationship of Mastery Learning to a variety of variables but have yet to consider whether or not the effect size of Mastery Learning is related to the number of students in the classes studied.

The present was designed to look at effect size and class size. The research question that was addressed in the present study was whether or not there is a relationship between the effect size of Mastery Learning and the size of the classes taught using the technique. It was hypothesized that class size would be negatively correlated to effect size. The current conclusion was drawn due to the nature of Mastery Learning. When the Mastery Learning teaching method is used, it is more likely that teachers will be aware of their students' levels of understanding when the class has fewer students. The teacher will also be able to focus additional attention on the students who need it to master the material. When the classes are large, it will be more difficult for the instructor to get to know the individual students. Therefore, the larger the class size the smaller the effect of Mastery Learning and the smaller the class

size the larger the effect of Mastery Learning resulting in a negative correlation between the variables.

Method

The sample consisted of twenty-five research articles that compared the Mastery Learning approach to traditional approaches. The articles had been included in the review done by Kulik et al. (1990) and were available at a small Midwestern University's library. In Kulik et al.'s review (1990), effect size was computed but information was not gathered on class size. In the present study, class sizes were looked-up and recorded by graduate students as described in the procedure.

The materials used in the present study were a data sheet for each article and a summary sheet for recording the class sizes gathered from all of the articles. The data sheet used is available for reference (see appendix). The data sheet includes a place for recording the name of the reference article, the class size for the Mastery Learning group and control group, and a verifier's signature. Space was provided to compute average class sizes in studies that examined more than one class.

The procedure involved randomly assigning 22 graduate students to one of the 25 articles in the sample. Three of the students were selected to review two articles. The students were dispatched to the university library where they looked-up their assigned article. They then recorded the Mastery Learning and control group class size(s) on the data sheet (see appendix). If multiple classes were examined in the two groups, the number from each class was recorded and an average class size was computed. After the students finished recording the class size from their article, they were required to have a classmate verify the numbers and calculations for accuracy.

The verifier was asked to sign his or her classmate's data sheet to indicate that they had done the verification. The students returned to their classroom where they reported the classes size that they recorded on their data sheets to their classmates. The class sizes for each of the articles were gathered together on the summary sheet, which also included the effect size for the articles. The class size and effect size were then correlated to determine the strength and direction of the relationship between the variables.

Results

A scattergram showing the Pearson correlation between class size and effect size is presented in Figure 1.

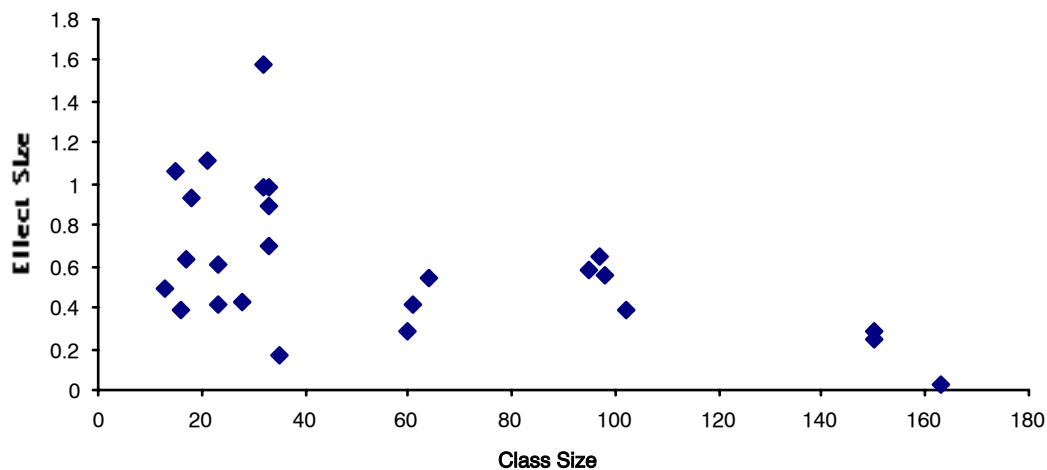


Figure 1. Scattergram on the relationship between class size and effect size among 25 research articles on Mastery Learning, $r = -0.53$, $p < .05$.

Discussion

The hypothesis of the present study was retained by the results as it was found that there was a negative correlation between class size and effect size. The results indicate that when the Mastery Learning teaching method is used for small classes that it is likely that it will have a large effect size implying that student's learning will benefit from it. The negative direction of the correlation also suggests that if a large class is taught with the Mastery Learning instructional approach the effect size will be small. A small effect size would mean that the student's learning would be the same as if they were taught using a traditional lecture approach.

The implications of the results are important to instructors who presently teach using the Mastery Learning technique and those that are considering using it. The conclusions drawn suggest that instructors will be most successful using the Mastery Learning teaching method if the class they are teaching is small. In fact, the smaller the class the greater the effects of Mastery Learning. The results also imply that Mastery Learning is an ineffective teaching method to use for large classes. Students in large classes will gain similar levels of knowledge when instructed using the Mastery Learning method as when taught using lectures.

Future studies on Mastery Learning could take a variety of directions based on the results of the present study. Because a correlation shows only a relationship between class size and effect size, further research should be conducted to determine what the probable causes are for the connection between these two variables. It is likely that multiple causes will be found, but isolating them will help better understand what makes the Mastery Learning teaching method so effective in small classes. It

would also suggest reasons why this instructional approach is not very effective in large classes. Further research should also consider teaching methods that could be used to produce higher levels of understanding in large classes. These methods could be as simple as making a slight revision to the Mastery Teaching method or as complex as developing a new teaching method that could be effective in large classes. Whichever direction future studies take, the focus should be ensuring that the teaching method examined, produces the highest level of understanding and retainment for the students as possible.

References

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Laney, J. D. (1999). A sample lesson in economics for primary students: how Cooperative and Mastery Learning methods can enhance social studies teaching. *Social Studies*, 90 (4), 152-158.

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Appendix

Data Sheet

Name of student _____

Data Gathering Sheet For PTE 894

1. Write the reference you are in charge of below:

2. Enter the class/group size(s) of the "Mastery Learning" class(es) or group(s), the class/group size(s) of the "Traditional/Control" class(es) or groups(s) below:

	Mastery Learning class/group size	Traditional or control class/group size
1.	_____	_____
2.	_____	_____
3.	_____	_____
.		
.		
.		
.		
.		
.		
.		
Average =	_____	_____

3. Verifier: (The space below is for verifier only)

I have double check the numbers and calculations above and found them to be accurate.
