

The dilemma of giving mathematics homework from the perspective of pre-service elementary teachers

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Abstract

Homework is defined as an additional task that a student does outside of the school. This added activity is in recognition of the necessity to spend additional time for subjects such as Mathematics. The dilemma comes in the form of the advantages and disadvantages that can be derived from homework. Studies have revealed varying effects of homework to students on academic and non-academic areas. Teachers are at the forefront of the decision towards the giving or not of homework. Pre-service teachers at the elementary level represent the future leaders of the educational system and should be acquainted and involved at the onset of the dilemma. The main objective of this study is to determine the perspective of pre-service elementary teachers towards homework. The anatomy of their belief can be a key towards addressing the issue via teacher training. The descriptive method of research was used through case studies. Constant comparative method was used to analyze results. Salient results revealed that the subjects favor the giving homework on the following grounds: it helps add knowledge, confidence and satisfaction. Those who do not favor homework find it as an additional burden and a source of additional stress. Difficulties in complying with homework are usually associated with limited time, bad influence of peers and teacher factor. Students usually spend late nights to comply with homework and are unable to perform at the best of their potentials.

Keywords: homework; assignment; pre-service teachers; perception; case study; mathematics education; Philippines

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1. Introduction

Mathematics is a discipline that requires a lot of drills to acquire mastery of certain skills. More time spent to practice these skills means improvements in mastery. Different countries have different time allotment for the subject mathematics in their formal educational system. In the Philippines, different curricula recommended different time allotment for the subject per week. Still, the time spent by a student in the school for a mathematics class is not sufficient for him/her to meet the expected competency level in the subject. This urges teachers to give homework in order to supplement what school activities fail to provide.

Cooper (1989) defined homework as *any task assigned by school teachers intended for students to carry out during non-school hours*. In defining homework this way, class activities and other school activities done in school which are related to school subjects such as mathematics is not considered homework. These activities, however complex, do not qualify as homework. The complexity of a homework may be in accordance with the following specific details: (1) amount; (2) skill area; (3) purpose; (4) options for students; (5) deadline; (6) option for group or individual work; and social context (Cooper, Robinson, Patall, 2006).

The effectiveness of homework has been the subject of debates for the last several decades. This dilemma is a problem in all levels, elementary, secondary and even at the collegiate level. There are a number of studies that prove its effectiveness while there are also studies that support that it is just a waste of time.

1.1 Positive Effects of Homework

The following is a review of studies about homework which revealed positive effects in certain aspects of the teaching and learning:

- Swartzlander and Walker supported the idea that assignment is an effective form of assessment and offers stronger impact on learning and self – efficacy of students.
- Sasser (1981) in his study on the effect of Homework Assignment in the Mathematics Achievement of College students in Freshmen Algebra found out that homework, when properly assigned and evaluated by the teacher improved achievement. However, there is very little evidence that assigning of homework has any negative effect on achievement.
- In an action research conducted by Swartzlander (2007) on the effects of self – assessment on Math Homework, she found out that homework is challenging for formative assessment. Students begin to see the importance of doing homework in developing their skills at the onset.

1.2 Negative Effects of Homework

The following studies revealed negative effects of homework on certain aspects of the teaching and learning as viewed by students:

- Cooper (2001), as mentioned by Xu in his article on Homework Emotion Management, reported that High School students view homework as a source of complaints and friction between home and school more often than other teaching activity.
- Eren and Headerson (2011) cited Rice's conclusion that laborious devotion by the children to think spelling homework bore no relation to later spelling ability. He further argued that time spent by

children in doing homework can better be spent in doing other activities.

- Sasser, Eren, Henderson, and Cooper all agree that homework has little effects on student learning. Epstein (1988) on the other hand, found a counterintuitive result with homework. In the study she conducted to look at the correlation of homework with some variables such as achievement, she found that at the elementary level, the more time spent by students in doing homework, the lower the achievement of the students in Mathematics and Reading.

1.3 Other Related factors to Homework

Other studies looked into the possibility that other factors such as socioeconomic status and parental involvement have effects on certain aspects of the teaching and learning, this section will help discuss the results of such studies:

- Ronning (2011) used Dutch data and looked into the benefits that can be derived from homework assignments. He concentrated on students in the elementary school and found interesting results. The results of his study revealed that socioeconomic status plays a role in the effect that homework has on student achievement. He found that test score gap is larger for heterogeneous groups given homework than a group who was not given any. He also found that students in the upper socioeconomic scale do better when given homework and those in the lower socioeconomic level performs poorer due to the lack of parent support. Thus, homework given to groups with differing socioeconomic status can amplify the existing gap between the performing and non-performing students.
- On parental involvement in homework, Walker et al. (2004) said that students benefit when parents offer positive responses to student homework performance. The more knowledgeable parents can be in offering reinforcement, the stronger their impact on learning and student self – efficacy is likely to be. They concluded that well – designed homework helps students learn; it also offers parents opportunities to see what students are learning, talk with children about their learning and interact with teachers and other school – community members about ways to support students learning.
- In the study by Galloway, Conner, and Pope (2013), they used survey data to look into the relationship of homework nonacademic factors such as well-being and behavioral engagement. The results revealed that for students in the upper middle class, high performing students who do more than the average 3 hours of homework per night experienced: (1) greater behavioral engagement in school; (2) more academic stress; (3) more physical health problems; and (4) lack of balance in their lives.

The literature provides a contending view about the benefits and harm that can be derived from homework. Marzano and Pickering (2007) put their campaign for homework simply by stating, “Teachers should not abandon homework. Instead, they should improve its instructional quality.” Teacher training institutions should be able to make a good view of dealing with this dilemma and in orienting pre-service teachers about proper way of addressing the issue by adapting campaigns similar to that of Marzano and Pickering. The views of elementary pre-service teachers towards homework will be at the core of this study. As future teachers in the elementary level, their view about homework will spell the kind of learning environment that their students will have. Their perspective on this issue will be essential in the way they will be facilitating their elementary classes in the future.

2. Methods

The researchers used the descriptive method of research. Specifically, case studies were conducted to focus on pre-service teachers’ perspective towards homework. Questionnaires were administered and interviews were conducted with identified subjects of the study.

2.1 Subjects of the Study

A group of thirty (30) pre-service elementary teachers was considered in the study. These subjects were currently taking their field study courses as part of their curricular requisites in their teacher education program in the University at the time of the study. The age of the subjects range from 17 to 20 years.

2.2 Data Gathering Procedure

The subjects were asked to observe classes conducted by the researchers in the elementary level from grades 4-6. They were then scheduled for individual demonstration teaching in Mathematics as part of their course requirement. All students conducted their demonstration teaching individually. They had their lesson plans checked prior to demonstration teaching with a decision of including homework or not as part of their plan.

Data Collection - All subjects were then asked to respond to a question about the greater effects of homework to students: positive or negative. The subjects were asked to write their response together with their name on a small sheet of paper. The names of the subjects who responded positive and negative were separately placed in bowls. Twelve students out of thirty (30), comprising 40% of the class were randomly identified using the fish bowl method. Six subjects were identified in each – homework effects: positive or negative. Identified subjects were then interviewed and requested to respond to questionnaires about demographic details including personal and family background information. The students were then allowed to conduct their one-shot teaching demonstration and made decisions as to giving homework or not. The students were then interviewed about the useful and not useful effects that homework can bring to students in the elementary level.

Data Analysis - In the study of Kolb (2012), she cited Bogdan and Biklen (2007) to describe data analysis as a systematic process of sifting and arranging all information obtained from interview transcripts, field notes and other material collected to increase understanding of the data to enable the presentation of what have been discovered. The Constant Comparative Method was used by Kolb to develop concepts from data by coding and analyzing at the same time. Conrad, Neumann, Haworth & Scott (1993) described the constant comparative method as a method that *combines systematic data collection, coding, and analysis with theoretical sampling in order to generate theory that is integrated, close to the data, and expressed in a form clear enough for further testing*. Glasser and Strauss (1967) described the constant comparative method to incorporate four stages: (1) comparing incidents applicable to each category, (2) integrating categories and their properties, (3) delimiting the theory, and 4) writing the theory.

In this study, analyzing data is referred to as coding. It takes three levels of analyses: (a) open coding, (b) axial coding, and (c) selective coding (Strauss & Corbin). Open coding involves the following processes: breaking down of the information gathered from the pre-service teachers; examination, comparison, conceptualization and categorization of the data gathered. The second level of analysis is axial coding. Strauss and Corbin described this process as *a set of procedures whereby data are put back together in new ways after open coding, by making connections between categories. This is done by utilizing a coding paradigm involving conditions, context, action/interactional strategies and consequences*. The third level, selective coding is described by Strauss and Corbin as *the process of selecting the core category, systematically relating it to other categories, validating those relationships, and filling in categories that need further refinement and development*.

3. Results and Discussion

The twelve identified subjects were individually interviewed to determine their views about mathematics homework. The following results are divided into two: (1) statements coming from subjects who consider the greater good that homework can bring to students; and (2) statements from subjects who thinks negatively towards homework.

The names of the subjects used in this study are aliases. The first six students are those who responded positively towards giving homework. Their names are as follows: (1) Pan, (2) Rel, (3) Bal, (4) Daq, (5) Lac; and Pai. The aliases of those who responded negatively towards homework are as follows: (7) Kar, (8) Mar, (9) Lin, (10) Rae, (11) Joy; and (12) Lor.

In establishing possible relation to personal background, personal data of subjects who responded positively towards homework are presented. The significant personal data of the subjects who responded positively towards homework are as follows:

Table 1

Personal Data of Subjects who favored homework for elementary students

Personal Information	<i>Case 1 Pan</i>	<i>Case 2 Rel</i>	<i>Case 3 Bal</i>	<i>Case 4 Daq</i>	<i>Case 5 Lac</i>	<i>Case 6 Pai</i>
Age	18	20	20	17	17	18
Gender	F	F	M	F	M	F
Occupation	Pediatrician	Midwife	Gov't	Housewife	Housewife	Housewife
Mother	Self-employed	Security	Employee	Private	None	Farmer
Father		Guard	Driver	Employee		
Favorite Subject	Science	Biology	Science	English	English	English
Least liked subject	Filipino	Math	Math	Math	Math/Science	Filipino

Majority of the subjects who favored giving homework in Mathematics for elementary students have mathematics as their least liked subject. Most of the subjects under study preferred Science and languages over other subjects. Pre-service teachers who considers Mathematics as their least liked subject prefers to give homework for students. Here, they may have felt the need for students to spend more time in studying mathematics outside of the allotted time in the classroom and the time spent by students in school. Pre-service teachers who usually choose elementary education are expected to have the competence to teach all subjects in the elementary level. The least preference at the onset towards Mathematics of the pre-service teachers and their greater favor towards mathematics homework may not be a good combination. Their preference affects their judgment of assigning homework.

The following details are from the interviews conducted by the researchers about the preference of the two groups of subjects towards mathematics homework. The first group considers Mathematics homework to be useful.

Group 1: Subjects who favored homework

Open Coding: Responses of Subjects who favored homework

Case 1 (Pan) - Good points for homework:

In preparing her homework, she normally reads the previous lesson first before she answers her homework. She consults someone for questions she does not know. For her, homework can help students in reviewing past and present lessons. She also said that satisfaction in accomplishing something adds to a good point for homework.

Negative points for homework:

Pan says that her school days are busy days. There are lots of homework to be done every day. She reaches home late because of the afternoon class, stays late at night to do the homework and wake up early the following day to go to school. All assignments are done during weekdays. Weekends are spent for family bonding to unwind and prepare for the activities of the coming week.

At home, her parents are very supportive. However, power interruptions and TV shows cause the delay of

preparation of homework. In school, she could not concentrate on doing some homework because of the very limited vacant period and her peers who always disturb her attention. Teachers do not give clear instructions which leads to confusion and frustration.

Case 2 (Rel) - Good points for homework:

Before starting answering the homework, she tries to look for books where she can find information about her homework. If she is not satisfied with the information in the book, she said she do research in the internet. According to Rel, she learned more information while doing research.

“I find satisfaction because I’m confident that I learned the lesson,”

Negative points for homework:

School days are stressful. Her sister knows that school days are full of pressure so they don’t require her to do household chores. Rel could not work on her assignments at home due to lack of references available. Her parents don’t teach her. They said that if I am really studying, I can do it myself. In school, there is no enough time. Peers always tend to compare our answers. Teachers don’t explain the homework properly which cause errors in our preparation.

Case 3 (Bal) - Good points for homework:

To Bal, homework is useful. It shows his level of understanding of a particular topic. In answering the homework, he usually refers to the previous lesson to supplement his answer to the homework.

Negative points for homework:

To Bal, week days are normally busy days. So, he tried to complete unfinished requirements that need to be submitted. His home is not conducive to homework preparation because his housemates are always noisy and parents require him to do household chores. In school, free time is not enough to look for references. Peers have influenced him. They spent free period going to movies. Teachers are not open to consultation with students. They are selfish.

Case 4 (Daq) - Good points for homework:

Daq said that answering assignment enhances her knowledge of the past lesson. She said she felt happy after answering the assignment knowing that he understood the topic very clearly.

Negative points for homework:

School days for Daq are very tiring. Full of loads and she doesn’t know which one to do first. But she always sees to it that everything is done on Saturday so she can relax on Sunday. At home, household chores and other things that need to be done usually distract. Parents have no idea about the homework. In school, vacant periods are very short. Peers are bad influence. Teachers give so difficult homework.

Case 5 (Lac) - Good points for homework:

Going back to the previous lesson before answering the assignment enhances his learning. He said he felt comfortable after preparing his homework.

Negative points for homework:

Weekdays are tiring. Going to school, doing assignments and projects, reviewing for exam is his daily routine. His weekends are also busy days doing household chores. He can’t concentrate on homework at home because of so many distractors. They are living with relatives. His mother is plain housewife so she can’t help in preparing assignments. There is much pressure in school. Peers are bad influence. Teachers give very hard

homework.

Case 6 (Pai) - Good points for homework:

Before answering the homework, she reads about the topic several times, take significant notes then construct an answer based on readings made in my own words. Doing homework, she said, widens her understanding about the lesson. She's always excited every time there is homework because she could see the value of studying and she could apply what she learned from the lesson.

Negative points for homework:

School days make her haggard looking but she find fun and enjoyment in schools. She felt more tired on weekends because aside from homework she has to do household chores and take care of younger cousins. At home, cousins, nieces and nephews create so much noise that often distracts her. Her parents are very supportive and do not require her to do household chores. In school, classmates often disturb her when she is doing her homework. Teachers are never satisfied with my preparations.

3.1 Axial Coding

Here is the result of the axial coding. In this presentation, a connection among the responses of the subjects is tallied based on the perceived positive and negative effects that homework can bring them. The data came from the openly coded responses of the subjects. Themes were classified and clustered to reveal the most common perceived benefits and harm that homework can bring.

Table 2

Axial Coding of the Reasons of Subjects who favored Homework

Positive Reasons	frequency	Negative Reasons	frequency
for advanced reading/reviewing	6	Bulk of work	4
for satisfaction	4	Additional stress	4
for increased confidence	2	Staying up late	1
to reveal/deepen understanding	2	Limited to no family bonding	1
		Not able to do other chores	1

Table 2 reveals the top positive reasons why students favor homework. The top reason is for advanced reading/reviewing of the lesson. Some other reasons are for satisfaction, increasing confidence and to reveal/deepen understanding. These reasons should be considered by teachers in deciding if topics are worth additional work at home. The table also shows the negative reasons they experience with homework. The top two reasons are because of the bulk of work and the additional stress that homework brings. This should be big considerations for teachers to consider when giving homework.

Table 3

Reasons why subjects who favored homework finds homework challenging

Reasons	frequency	Reasons	frequency
Limited time	4	Other tasks at home	2
Teacher Factor	4	Unclear homework instructions	2
Bad influence peers	4	Power interruptions	1
Not conducive home	3	Watching TV programs	1
Parents are not helping	3	Lack of references	1

Table 3 reveals that ten reasons that limit the ability of a student to comply with the homework requirement. The top three reasons are because of the limited time, teacher factor and bad influence peers. Other reasons include not conducive homes, parents who do not help, etc. These reasons should be considered by teachers in giving homework, most importantly the time element. Homework should therefore not take much of the time of students for them to be able to do other productive tasks.

3.2 *Selective Coding: Synthesis of subjects favorably responding towards giving homework*

Subjects' personal experiences show that homework helps them to review past lessons. It also enables them to prepare for the next lesson. They also found satisfaction and fulfillment after answering their assignments. While it's true that school days are busy days, still they try to find time answering their homework. Despite the subjects favoring homework, they still are bothered about some major constraints with homework. Students grow tired of the bulk of homework to add up to the day's study load which becomes a source of additional stress. Time is also a major constraint in doing homework. Students have to stay up late just to comply with the homework.

Group 2: Subjects who did not favor homework

Open Coding: Responses of Subjects who did not favor Homework

The following cases show the positions of subjects as to their choice of not favoring assignments to be given to students in the elementary level.

Case 7 (*Kar*) - Kar doesn't like homework because she has to take a rest when at home. She's the one doing household chores left by her deceased mother. Even the school is not a conducive place to work for homework because of limited time and peers that distract her. After class, she went immediately to the school dorm where she stays on school days to work on her assignments. Since Kar is staying in the dorm she tried to finish all homework after class hours so during weekends, she serves as tutor to her younger sister. For her, weekends are also a time for relaxation and church activities.

Case 8 (*Mar*) - Mar is not in favor of giving homework because students just copy from their classmates. She believed that activities should be done in the classroom where students can participate actively. At home, people are very noisy, TV sounds aloud, siblings are shouting at one another and parents can't help prepare assignments. In school, teacher introduces so many concepts but not well explained. So students like Mar finds it difficult to answer assignments. She always looks forward to weekends where she could sleep as long as she wants and forget all about homework.

Case 9 (*Lin*) - Lin does not like homework or assignment because she always forgets doing it. At home, she could not ask for assistance from parents when it comes to homework but there is much pressure from them to finish the course. In school, she's ashamed to ask questions from teachers so she just copy from her classmates. Her weekdays are restless and frustrating. Her weekdays are only for herself – no work, no homework no studying, all relaxation.

Case 10 (*Rae*) - To Rae, homework is an additional load. There are already lesson plans to prepare, demonstration lessons to be conducted and examinations to review. And homework is an added burden to students. Preparing homework make her tires and sleepy. At home, there are no references so the tendency is to sleep early. Her parents are not with her to help. Her weekends are reserved for her laundry work. In school, she always looks forward to the day when professors are absent or when classes are suspended so she can have time to prepare homework.

Case 11 (*Joy*) - Joy is not in favor of homework. To her, it is better that there be done in the classroom as a cooperative activity. This will give her a chance to copy from her classmates. Anyway, the teacher will not notice it. At home, she's tempted to open her Facebook or Twitter account which consumes much of her time. During weekends, she knows she had to prepare homework but she doesn't care. She prepares to do whatever she wants to do and just prepare the assignment late at night.

Case 12 (*Lor*) - Lor rejects homework. She wants to relax at home so she does them in school. During weekends, she has to do household chores after which, she goes out with family or friends. No matter how much she dislikes homework, she was forced to comply with the demands of the professors.

3.3 Axial Coding of Reasons of subjects who did not favor homework

The following table shows the reasons why subjects did not favor homework.

Table 4

Reasons why subjects who favored homework finds homework challenging

Reasons	frequency	Reasons	frequency
Other chores/distractors	4	Not conducive home	1
Source of stress/added burden	3	Bulk of homework	1
Source of cheating	3	Difficulty level of homework	1
Parents cannot help	2	Forgets doing homework	1
Limited time	1	Limited references	1
Peers as distractors	1		

Table 4 shows the reasons why subjects did not favor homework. The top reasons of the respondents is that they still have to do other chores and there are many distractors such as social networking sites. Homework is also believed to be a source of stress and additional burden and cheating.

3.4 Selective Coding: Synthesis of the Reasons why subjects do not favor homework

It is an accepted fact that students do not like much school work specially homework. Students who dislike homework do not mean they will not prepare homework. They are only overloaded with intervening activities both in school and at home. But when properly motivated and instructed they also comply with the teacher's requirements. Other reasons for not liking homework are alarming. The perception that homework adds burden is not good. If students do not appreciate the good that the task do, it should be stopped. Being a source of cheating is also a bad effect of homework. Teachers should be aware of this and should do interventions to help students with difficulty and not to be a source of a bigger problem.

3.5 Implications for Teaching and Learning

This study took into consideration the position of pre-service teachers in giving homework. From pre-service teachers' perspectives, a whole new set of views had been found. The results of this study revealed that pre-service teachers' position as to giving homework is based on what they have experienced in their own mathematics classes. Here are implications for students and teachers as regards homework.

3.6 Implications for Students

There are advantages and disadvantages that students can get out of doing homework. The top benefits that pre-service teachers consider to get include having enhanced knowledge because of the review of the lesson and the advanced learning for the next lesson. Doing homework also increases confidence and satisfaction. When students gain confidence in lessons discussed in class, they become better with understanding them. They are more engaged and finds lessons more interesting. On the other hand, the extreme effect may be developed in students. These are arrogance and the lack of interest in studying the lesson anymore because of having learned the lesson at home. They may even be faced with the following realization: (1) they can better learn the lesson alone; (2) their tutors/parents are better in teaching them; and/or other issues. There are also negative reasons that students experience out of homework. The top reason is the added stress because of the bulk of homework to be done. Students should be able to manage stress by managing their time. Good time management may be a key towards achieving high and becoming satisfied in school activities and tasks.

3.7 Implications for Teachers

In practice, the decision of assigning homework had been the sole task of the teacher. Students are rarely asked if they like homework for particular topics or for the case of many are not asked at all. Teachers are the

ones to weigh if a certain lesson needs further polishing at home with additional activities. The decision to give homework is crucial. Some of the considerations in giving homework are as follows: 1) quantity of homework; 2) time requirement to accomplish; 3) availability of references; 4) clarity of instructions. Teachers should also consider coordinating with other teachers so that the workload of assignments will not pile and will not be too difficult for students to accomplish. If all subject teachers will give homework all at the same day in a week, students will be burdened by the so many tasks to be done overnight or over a matter of limited time. Teachers should also be conscious about the factors that can lead to the successful conduct homework. These factors include the following: 1) cheating; 2) parents support; 3) teacher's availability for consultation; 4) peer support.

4. Conclusion and Recommendation

The dilemma of giving homework in Mathematics still persists these days. Pre-service teachers carry with them their belief about the giving of homework and feels that same applies to all classes. Some of them favor homework because their knowledge is enhanced through reviews and advanced reading in the process of accomplishing homework. They also gain confidence and satisfaction in completing homework. On the other hand, others consider homework as an additional burden that consumes much of their time contributing to added stress. Difficulties encountered at home include assigned household chores and lack of references. In school, problems about homework include very limited vacant periods, distractions made by peers, and some teachers failing to give clear instructions about the homework. The pile of homework in several subjects becomes another concern for students who stays up late in the evening. Sleep deprived students also tend to lose focus in class and are less likely to perform at their full potential. Giving of homework must therefore be a school consensus. The recognized benefits strengthen the need for homework specially for developing skills in solving Mathematics problems. The recognized harm that the activity can do to students should be addressed by developing systems of giving homework in school, considering many factors such as socioeconomic status and other student needs such as reference materials to comply with homework requisites. Homework still is an inevitable part of the academic life of a student. The challenge for academicians is to reinvent homework to address problems and focus on strengths that homework can bring to students.

5. References

- Conrad, C., Neumann, A., Haworth, J. G., & Scott, P. (1993). *Qualitative research in higher education: Experiencing alternative perspective and approaches*. Needham Heights, MA: Ginn Press.
- Cooper, H. (1989). Synthesis of research on homework. *Educational Leadership*, 47(3), 85-91.
- Cooper, H., Robinson, J. C., & Patall E. A. (2006). Does homework improve academic achievement? A synthesis of research 1987-2003. *Review of Educational Research*, 76(1), 1-62.
<http://dx.doi.org/10.3102/00346543076001001>
- Epstein, J. L. (1988). *Homework practices, achievements, and behaviors of elementary school students*. Center for Research on Elementary and Middle Schools, VSP Industries, Baltimore, MD.
- Eren, O., & Henderson, D. (2011). A discussion paper: Are we wasting our children's time by giving them more homework? Retrieved from <http://ftp.iza.org/dp5547.pdf>
- Galloway, M., Conner, J., & Pope, D. (2013). Nonacademic effects of homework in privileged, high-performing high schools. *The Journal of Experimental Education*, 81(4), 490-510.
<http://dx.doi.org/10.1080/00220973.2012.745469>
- Kolb, S. M. (2012). Grounded theory and the constant comparative method: Valid research strategies for educators. *Journal of Trends in Educational Research and Policy Studies*, 3(1), 83-86.
- Marzano, R. J., & Pickering D. J. (2007). The case for and against homework. *Educational Leadership* (pp. 74-79). Association for Supervision and Curriculum Development.
- Ronning, M. (2001). Who benefits from homework assignments? *Economics of Education Review*, 30, 55-64.
<http://dx.doi.org/10.1016/j.econedurev.2010.07.001>
- Sasser, J. E. (1981). The effect of homework assignment on mathematics achievement of college students in

freshmen students in freshmen algebra. *Education Resources Information Center*. Retrieved from <http://johnsasser.com/pdf/article01.pdf>

Strauss, A., & Corbin, J. (2008). *Basics of qualitative research: Grounded theory procedures and techniques* (3rd ed.). Newbury Park, CA: Sage.

Swartzlander, D. (2007). *The effects of self-assessment on math homework*. Unpublished Masteral Thesis, University of Nebraska-Lincoln. Retrieved from <http://scimath.unl.edu/MIM/files/research/SwartzlanderD.pdf>

