Improving the Self-Efficacy of Students with Learning Disabilities through Peer Mentoring: A Research Proposal

Christa Steiner

University of Southern California
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Abstract

In this paper, a peer-mentoring program for students with learning disabilities will be proposed as a possible method of increasing student self-efficacy. Students will be surveyed using self-efficacy Likert scales before and after participating in the program to determine whether or not the program had a positive impact on the way students think about their personal academic abilities.
Improving the Self-Efficacy of Students with Learning Disabilities through Peer Mentoring: A Research Proposal

It has been frequently shown that students who are diagnosed with learning disabilities tend to have lower self-efficacy than their counterparts without LDs (Klassen, 2002; Hen & Goroshit, 2012). Because low self-efficacy has been linked to lower levels of academic motivation and academic success (Irizarry, 2002; Prat-Sala & Redford, 2010; Margolis & McCabe, 2006; Alivernini & Ludici, 2011; Klassen, 2002; Pajares, 1996; Gao & Lochbaum, 2011; Vancouver & Kendall, 2006), as well as an increase in stress, anxiety and depression (Pajares, 2006), it is important that we as student affairs professionals make it our goal to increase the self-efficacy of this student population. In this proposed research study, we are putting forth a plan to potentially increase the self-efficacy and overall academic success of students with learning disabilities at USC through a peer mentoring program.

Review of the Literature

As defined by Bandura (1977), self-efficacy is a person’s belief in their own ability to successfully complete a task. Self-efficacy is a contextual process (Pajares, 1996), so a person’s self-efficacy on his ability to write may have nothing to do with his self-efficacy to succeed in a math class. For students to be successful in a higher education setting, it has been deemed most important that the students have higher self-efficacy in reading and writing abilities, as well as positive self-beliefs pertaining to thought organization and ability to enact learning strategies, because these skills tend to be utilized the most regardless of student major (Prat-Sala & Redford, 2010). In the program that we plan to create, we will be focusing primarily on raising our students’ self-efficacy in these areas.
One may be interested to know why it would be important to raise the self-efficacy of students, with particular focus placed on students with learning disabilities. Self-efficacy has been posited to be the root of an individual’s motivational process, directly affecting the attainment of individual goals (Irizarry, 2002; Alvernini & Lucidi, 2011; Gao, Lochbaum & Podlog, 2011). As dedicated student affairs professionals, we want our students to be motivated to learn and to eventually achieve their educational and career aspirations. In addition to aiding in students’ goal attainment, self-efficacy has also been shown to directly influence the types of goals that students choose to partake in. Learners are more apt to engage in activities that they believe they have the ability to succeed in, so students with lower self-efficacy are less likely to choose challenging tasks even if they are perfectly capable of succeeding in difficult tasks (Bandura, 1977; Irizarry, 2002).

All students should feel efficacious enough to attempt what they want to do, not just what they think they can do. If a student has low self-efficacy for a particular task, he will be more likely to superficially attempt that task, give up quicker than he would otherwise, or avoid the task altogether (Margolis & McCabe, 2006). This could impact the level of courses students are willing to take, the majors that students choose, and whether or not the student feels she is capable of finishing their degree program. Irizarry (2002) concluded that the effects of self-efficacy may account for the differences between students completing their degree or withdrawing from a program. It is important for us to raise the self-efficacy of our students because “people with high levels of self-efficacy are more likely to persevere in the face of difficulties, more likely to demonstrate intrinsic motivation when engaged and performing a task, and less likely to feel disappointed in the face of failure” (Prat-Sala & Redford, 2010, p. 285).
In this study, we are looking particularly at our student population with documented learning disabilities. Increasing self-efficacy is especially pertinent for this student population, because students with learning disabilities tend to have lower perceptions of academic and social self-efficacy (Klassen, 2002; Hen & Goroshit, 2012). Students with lower self-efficacy tend to believe that things are more difficult than they actually are, which in turn encourages stress, depression, and a narrow scope of how to best solve a problem (Pajares, 1996). This coincides with the observation that students with LDs report higher levels of anxiety and stress, as well as the observation that they exhibit more maladaptive behaviors, such as learned helplessness, lower persistence, and lower academic expectations of themselves (Hen & Goroshit, 2012).

Klassen (2002) would argue that the lower self-efficacy of students with LDs is not necessarily a negative issue, because due to calibration their self-efficacy is actually more realistic than that of students without LDs. However, I would argue that even if the self-efficacy scores are more realistic, there is no reason why the self-efficacy should not be raised if the increase could potentially relieve stress and promote student autonomy.

It has been stated that self-efficacy can be increased in four different ways, including enactive mastery, vicarious experience, verbal persuasion and emotional states or reactions (Bandura, 1977; Margolis & McCabe, 2006; Klassen, 2002). Enactive mastery is acted out when tasks are broken down to create opportunities for the students’ successes that in turn increase their self-efficacy (Bandura, 1977; Margolis & McCabe, 2006; Klassen, 2002). Vicarious experience is when students gain self-efficacy by watching someone else perform the task successfully (Bandura, 1977; Margolis & McCabe, 2006; Klassen, 2002). It has been shown that the more similar the peer model is to the student observer, the more impact the vicarious experience will have on the student’s self-efficacy (Dembo & Seli, 2008; Margolis & McCabe,
Verbal persuasion and emotional state increase self-efficacy, but are not as effective as the first two at increasing self-efficacy (Dembo & Seli, 2008). Verbal persuasion is basically when a third-party observer encourages the student, and that information is processed, interpreted and evaluated (Bandura, 1977; Margolis & McCabe, 2006; Klassen, 2002), while emotional state is just how the student feels before during and after tests (Bandura, 1977; Margolis & McCabe, 2006; Klassen, 2002). These four ways of increasing self-efficacy are important when implementing our program, because it helps us to determine what will be most effective when trying to increase the self-efficacy of our students with learning disabilities.

In addition to feeling excess stress and presumably feeling less capable, students with learning disabilities also tend to perceive less social support (Hen & Goroshit, 2012). In order to combat the low self-efficacy and the perceived lack of support at the same time, a peer mentoring group would logically be the ideal option. Students’ self-efficacy has been shown to be positively impacted by teacher-student interactions (Irizarry, 2002), and peer-modeling has been shown to increase persistence and accuracy in mathematics (Pajares, 1996), so it is not a stretch to think that peer-modeling would be beneficial in increasing the self-efficacy of students with LDs. In the following portion, a short description of the program will be presented.

**Peer-Mentoring Program**

In our proposed program, students will be matched up based on characteristics such as gender, race and type of learning disability, because it has been shown that students benefit most from vicarious experiences when the model is similar to them (Dembo & Seli, 2008; Margolis & McCabe, 2006). This is because the student will associate a similar model with himself and feel that if the model can perform the task, then there is no reason why he should be unable to perform the task, increasing the student’s self-efficacy. During the program, the peer model and
the student will work together on various academic tasks, which will create opportunities for enactive mastery. After the completion of an academic task, or after a part of the academic task is completed, it will be important for the peer mentors to praise the student and give constructive feedback. Bandura and Locke (2003) state that “feedback framed as positive gains toward goal attainment sustained high self-efficacy, raised self-set goals, and supported self-satisfaction” (p. 91). This positive reinforcement will take care of the verbal persuasion component of raising self-efficacy. Hopefully, after a few positive sessions with a peer mentor, the student will begin to feel more positively about the academic tasks, and his emotional affect relating to the tasks will improve. By initiating all four ways to increase self-efficacy, we hope that the peer mentoring program will have a positive effect on the self-efficacy of students with learning disabilities, and in turn bring them even more academic success.

**Research Methods**

Before we are able to come to any conclusions about whether this peer mentoring program will be beneficial for increasing the self-efficacy of students with learning disabilities, it is important to establish our hypothesis and testing strategies. First, it will be important to present our peer mentoring program and the subsequent assessment to our campus IRB, or institutional review board, in order to ensure that we are meeting all ethical codes before beginning. We want to ensure that no harm will be done to our students in the process of this assessment. After clearing the research through the proper channels, we will be able to begin putting together a sample of students.

If at all possible, a sample of 15 to 20 participants would be nice, though it may be difficult to gain that many volunteers. It would be necessary to advertise for the study through Disability Services, and screen volunteers for the program. Due to FERPA laws, we would not
have access to the names and contact information of this student population. In order to attract students to participating, we may want to advertise the potential benefits of the program, and if that does not entice participants, we may need to offer some sort of “gift” upon completion of the program.

It seemed appropriate to choose this sample size because the data is only expected to be generalizable to students at USC with learning disabilities. While it would be better if we could get a random sample of this population to be more representative of the total population, I cannot see a way to obtain a perfectly random sample in an ethical manner. After the ideal sample has been selected, and they have signed the necessary informed consent forms (see Appendix A), they will be paired up with a peer mentor similar to themselves. Before the actual mentoring program began, the students would be given a test to gauge their level of self-efficacy. This test would be a simple survey, using Likert scales with questionnaires that have been tested over time for validity and reliability (see Appendix B).

Once the pre-test has been administered to the student participants, they will be able to join the peer mentoring program. The peer mentoring program will go on for the first two semesters of the students’ freshman year, and will strive to increase self-efficacy through peer modeling and social support. After the program is complete, there will be another test of self-efficacy using the exact measurement tool as was utilized in the pre-test. Once the two tests have been completed by the student participants, we will be able to begin all of the analysis.

**Quantitative Component**

Our research question for this student will be: will a peer mentoring program successfully increase the self-efficacy of student with learning disabilities at USC? The null hypothesis for the study will be that there will be no difference in self-efficacy scores between the pre-test given
before the mentoring program takes place and the post-test after the program has been completed. The research hypothesis will be a directional research hypothesis because we feel that the post-test scores will not only be different but they will be higher than the pre-test scores (Salkind, 2011). For this study, the research hypothesis will be that the post-test scores for self-efficacy will be greater than the scores for self-efficacy given before the program.

The first thing that will need to be done is to set the level of significance for our study. I have decided to use .05 as the level of significance, because it is fairly standard for social sciences. The significance level is the “risk set by the researcher for rejecting a null hypothesis when it is actually true” (Salkind, 2011, p. 435). By setting the level of significance to .05, I am saying that on any one test of my null hypothesis (that there will be no difference between pre- and post-test score of self-efficacy), there is a five percent chance that I will reject it when it is actually true.

The next step will be to do the actual data analysis. Because I have one group of students with learning disabilities taking two tests on self-efficacy, and I want to see the difference between the two scores, Salkind (2011) would suggest using a t-test for dependent variables. This test is written as:

\[ t = \frac{\sum D}{\sqrt{n \sum D^2 - (\sum D)^2}} \]

where \( \sum D \) is the sum of all differences between the group of scores, and \( n \) is the number of paired observations (Salkind, 2011). After we plug in the proper numbers and obtain the value for “t”, we will have our obtained value for the analysis. The next thing we would need to do would be to find the critical value for our study. The critical value is the “value necessary for
rejection (or non-acceptance) of the null hypothesis (Salkind). The critical values for t-tests are listed in Table B.2 in the back Appendix of Salkind’s (2011) book.

At this point, we are unable to look up the critical value for this study, because we do not have the exact number of students who will be participating in the program. The critical values are determined by level of significance and the degrees of freedom, which cannot be determined without the sample size. Once the students volunteer for the program, we will be able to pinpoint a critical value based on the number of students participating. The last step will be to compare our obtained value, $t$, to the critical value. If the obtained value is more extreme than the critical value, then the null will be rejected and we will have support in the idea that the peer mentoring program aided in raising the students’ self-efficacy. If the obtained value is less extreme than the critical value, then we will have no choice but to accept the null hypothesis that the self-efficacy scores were not significantly different after students with learning disabilities participated in the program.

**Qualitative Component**

In addition to the quantitative component of this study, we would also like to propose a short qualitative component at the end of the peer-mentoring program. We thought it would be beneficial to hold interviews in the form of focus groups at the conclusion of the program. Students would meet in small group of six to eight participants to talk about the effects of the mentoring group with a designated interviewer. Having a focus group would allow us to gather information about the peer mentoring program without having to put the participants through another survey, and it would save us time in conducting interviews (Lichtman, 2012). A semi-structured focus group would be put into play, where a structured set of questions would be set (see Appendix C), but the interviewer would be allowed to modify the questions and the plan as
needed. We would need to rent a space without distractions such as windows, and it would be best for participants to sit at a rounded table so that they can engage with one another (Lichtman, 2012). It would also be necessary to record the sessions of the focus groups meeting so that proper transcription would be possible (Lichtman, 2012). It would be impossible to code the responses if the transcriptions were not available.

Utilizing a qualitative component on top of the quantitative component would allow for triangulation, which increases the credibility of any findings we may get in the research through supporting the results on multiple fronts (Lichtman, 2012). While we will be asking the group some basic questions about their emotional responses to the group or how the program might be improved for subsequent program cohorts, it will be important to also gain input about whether the students felt more self-efficacious after their participation in the program. Even if the students do not focus on the self-efficacy, we may come across additional information that could prompt additional research. The focus groups, while brief, will be incredibly important in the program development.

**Limitations**

While this is a fairly simple study, it is still important to think about the various limitations that could be involved. One issue is that we are obtaining our sample through volunteering, which makes our sample less random than it would be if we could just randomly select them from a list. There may be some factor about the students that make them more likely to volunteer for the program than other students with LDs, which could indicate that the sample is not as representative of the total population. Another limitation is that there are students with LDs who either have never been tested for LDs, or who have not registered with Disability Services on campus. These students would not be included in the data, because we would have
no record of them having a learning disability. This means that this study may leave out a portion of the population, which is unfortunate but unavoidable in this situation.

There are also limitations outside of the sample group of students. Other limitations that may be associated with this study is that self-efficacy is very difficult to measure, and it could vary with a student’s mood. This makes it very difficult to get an accurate measure of self-efficacy. Plus, there could be outside factors that also contribute to increasing a student’s self-efficacy. In order to improve this study in later research, it would be beneficial to have two groups of students with learning disabilities take pre- and post-tests during the school year, and have only one of them participate in the group. This would help us indicate whether any change in self-efficacy was due to the peer-mentoring program or any outside factors.
Appendix A

Consent Form for College Student Participant

Purpose and Procedures: This study is intended to assess college students' feelings and attitudes about their ability to complete academic tasks. If you agree to take part in this research, you will be asked to complete pre-and post-test questionnaires about your belief in your ability, participate in two semesters of bi-monthly peer-mentoring, and participate in a 45 minute long focus group about the program. You will be given feedback regarding your performance on the academic tasks completed along the way. You will be asked to complete the pre-test today in this location. This will take about 30 minutes.

Voluntariness: Your participation in this research is voluntary. You may refuse to participate, discontinue participation, or skip any questions you don’t wish to answer at any time without penalty or loss of the benefits to which you are otherwise entitled. Your decision will not affect your grades or status at this university.

Risks and Benefits: You may experience some mild, temporary discomfort relating to taking an achievement test, about your performance on the test, or associated with the post-test questionnaires, as they concern your feelings and attitudes. You could benefit from meeting other similar individuals, and you may learn some new strategies for learning more effectively. Other than these potential benefits, you will probably not receive any direct compensation for participating in this research. However, your participation may help researchers and clinicians better understand learning disabilities, and how to better serve this student population.

Confidentiality: Only the principal researcher will have access to research results associated with your identity. In the event of publication of this research, no personally identifying information will be disclosed. To make sure your participation is confidential, please do not provide any personally identifying information on the questionnaires, other than your student ID number, and place your signed consent form and completed tests in separate envelopes.

Who to Contact with Questions: Questions about this research study should be directed to the primary investigator and person in charge, Christa Steiner, or her supervisor, Kevin Bolen. They can be reached at the Center for Academic Support in room 301 of the Student Union. Questions about your rights as a research participant should be directed to the Institutional Review Board of USC. You will receive a copy of this consent form.

I certify that I have read this form and volunteer to participate in this research study.

________________________  
(Print) Name

________________________  Date: _________________

Signature

This survey was adapted from a survey created by the IRB for the protection of human rights at the University of Illinois at Champaign-Urbana January
Appendix B

Self-Efficacy

Demographic Information and Efficacy Survey

What year were you born?

What is your gender?

What do you consider to be your race?

- White/Caucasian
- African American
- Hispanic
- Asian
- Native American
- Pacific Islander
- Middle Eastern
- Other

What is your country of origin?

Are you currently studying as an international student?

- Yes
- No

What is the highest level of education your mother has completed?

- Less than High School
- High School / GED
- Some College
- 2-year College Degree
- 4-year College Degree
• Masters Degree
• Doctoral Degree
• Professional Degree (JD, MD)

What is the highest level of education your father has completed?
• Less than High School
• High School / GED
• Some College
• 2-year College Degree
• 4-year College Degree
• Masters Degree
• Doctoral Degree
• Professional Degree (JD, MD)

What is your college major?

You are a:
• Full-Time Student
• Part-Time Student

<table>
<thead>
<tr>
<th>I am able to organize my activities so that I can meet all course deadlines.</th>
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<tr>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Somewhat Disagree</td>
<td>Somewhat Agree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Soon after the end of a lesson, I am able to remember [most, all] of the key concepts</th>
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<tr>
<th>I can understand [most, all] of the key concepts covered in my course.</th>
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<th>After sitting an exam, I am able to remember [most, all] of the key concepts covered in the course</th>
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<th>Even when I haven’t participated in a lesson, I can [usually, always] understand</th>
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<tr>
<td>Statement</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Somewhat Disagree</td>
<td>Somewhat Agree</td>
<td>Agree</td>
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<td>I am [rarely, never] embarrassed to ask the teacher for clarification</td>
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<td>I am [usually, always] able to evaluate the quality of fellow group members’ contributions when I participate in group activities</td>
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<td>It is [usually, always] easy for me to understand new information, even on a topic that does not interest me very much</td>
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<td>During a course, if we are given a new task to complete, I can [usually, always] complete it by applying the knowledge that I obtained from lessons</td>
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<td>Soon after the end of a lesson, I am [usually, always] able to distinguish the most important concepts from concepts of less importance</td>
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<td>I [usually, always] find it easy to join a group of fellow students to study or complete course activities</td>
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<td>After a lesson, I am [usually, always] able to integrate concepts described by the teacher with those presented in course texts and readings</td>
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<td>I can easily identify the key points when reading a journal article or academic book</td>
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<td>If I put a lot of effort in, I can understand a journal article or academic book well.</td>
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<td>After reading a text, I can easily answer questions</td>
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</tbody>
</table>

IMPROVING SELF-EFFICACY THROUGH PEER MENTORING
### Current Semester GPA
[1]  

### Last semester GPA
[ ]

The survey questions gauging student self-efficacy using the Likert Scale were taken from two surveys conducted by Prat-Sala and Redford (2010) and Klobas, Renzi and Nigrelli (2007). These surveys were constructed utilizing theory from Albert Bandura to reliably measure self-efficacy. The author of this survey takes no credit in the creation of these questions. We would like to thank Prat-Sala, Redford, Klobas, Renzi, and Nigrelli for an excellent foundation to construct our survey.

**Appendix C**
Focus Group Questions

The following questions are to be asked to each of the focus groups. The interviewer may modify or clarify questions as needed, but all questions must be asked. The questions are as follows:

1) How did your participation in the peer-mentoring program affect how you feel about your academic abilities in reading and writing?

2) How do you feel about your ability to complete your educational program at this point in time?

3) How do you feel about your ability to be successful in your academic life?

4) Did you notice any changes in the ways you went about studying this year?

5) Have you noticed any changes in your thoughts and feelings about yourself this year?

6) What did you learn from your peer mentor?

7) What is something you wish you had gained from this program that you did not experience in the last two semesters?

8) How could this program have been improved?
References


