Narrowing the teaching-research gap by integrating undergraduate education and faculty scholarship

Steven M. Toepfer

Understanding and enjoying research can be facilitated by doing research with those we teach. By engaging undergraduate students as research participants, and converting a classroom assignment into a research project, the present author was able to narrow the teaching-research gap. 'Letters of Gratitude' were written to explore the benefits of being a benefactor and highlight important course content. Results indicated that students enjoyed participating in the process and showed increased interest in research. In addition, statistical group differences in subjective well-being were found between students who participated in the experimental and control groups.

Keywords: research-teaching, integrating research and teaching, role, education, letters, writing, gratitude.

“What’s bread in the bone, will stick to the flesh.” -Aesop

A simple method is proposed in this paper for integrating research and teaching in an academic climate that too often compartmentalizes these faculty roles. The goals of this approach are threefold; 1) create a vehicle for teaching class concepts, 2) improve undergraduate knowledge of research, and 3) facilitate faculty scholarship. The undergraduate experience and student learning have been ranked as two critical faculty responsibilities that are best addressed through the channels of teaching and research (Fairweather, 1996, 2002; Marsh and Hattie, 2002). The regulation of time allocated to these differing roles is one of the most salient issues for faculty in higher education. For undergraduates, the nature of faculty work (especially research) is often shrouded in myth, opinion, and conjecture (Fairweather, 2002). By personally engaging students in research the present author offers more than a simple “two birds with one stone” approach, and attempts to synchronize the flight path in order to provide a shared experience. Employing undergraduates as research participants is by no means a new idea but integrating course content with research endeavors may cultivate student interest, improve understanding of concepts, and rapport between student and faculty.

The bifurcated teaching-research role of the University professor could be considered a delicate balancing act balancing act. That dramatic description illustrates the common struggle of integrating two very different aspects of the career. The inherent differences are prone to compartmentalization but when integrated provide a rich experience. This expectation may be reflected in advice from faculty mentors and administrators. Vroom (2007) reported that a Dean once advised him, “Just focus on your research and teaching will take care of itself. You can’t be a great teacher without also being great in research.”

The hereafter named teaching-research gap can affect students, leading them to believe that professors do nothing beyond teaching, take Fridays off, and work only nine-months a year.

1 Department of Human Development and Family Studies, Kent State University-Salem, 2491 State Route 45 South, Salem, Ohio 44460-9412, stoepfer@kent.edu.
The present author contends that by stepping out of the dimly lit LCD office to shine the light of research in the classroom, faculty roles become more transparent, research is better disseminated, and student’s educational experience are improved. In this article, the process of “converting” a student assignment into a research project is described. The proposed outcomes of engaging student-participants included, a) provide a hands-on example of an important class concept, b) engaging their curiosity about research, and c) provide them detailed feedback about the research process to spark interest and expand understanding.

I. Linking Undergraduates to the Research Process.

A. Through Active Learning.

Active learning is “learning by doing” and the benefits are substantial, especially when participants feel as if they are personally growing as a result of the learning experience (Longmore, Jarboe and Dunn, 1996). Such growth includes increased interest, motivation, and improved interpersonal skills as well as an increased ability to appreciate and consider multiple perspectives (Wagenaar, et. al., 2003; Metcalfe and Matharu, 1995; Jacobs, Power and Loh, 2002; Kiki, 2005). Active learning projects include experiences where students are involved in the discovery of knowledge, where the development of skills is emphasized, and where students are actively engaged rather than listening (Johnson et al., 1991). Others have called active learning problem-centered learning, collaborative learning, and service-learning (Weinert, Schrader, and Helmke, 1990; Bonwell and Eison 1991; Rangachari 1996).

Students’ confidence in their research abilities has been found to change during undergraduate years (Davis and Sandifer-Stech, 2006). A vehicle for improving this confidence is involvement in practical methods inherent in active learning. Direct participation in discovery (research) has been shown to improve learning and motivation in the same powerful way it motivates academics – through engagement (Brew, 2003). Garde-Hansen and Calvert (2007) referred to this type of active learning as research based learning for the express purpose of creating a research culture in the undergraduate curriculum.

According to Garde-Hansen and Calvert (2007), the higher order skills of evaluation, synthesis, and reflection that help motivate faculty are often absent from undergraduate curriculum. Linking undergraduates to these processes should be a goal of educators, therefore, exploring methods to forge these connections for students should be seriously considered by faculty. Garde-Hansen and Calvert (2007) refer to this as a managed taste of research-based learning that employs students to be part of research and perceive it as an important holistic approach to a curriculum. Schwartz (1995) supports this process as one that allows cognitive communities to evolve. Designing space in the curriculum for the emergence of a research community, even if that community is only evident for the briefest of moments, can yield important results (Garde-Hansen and Calvert, 2007).

The active research-based approach embeds an experience beyond the typical nuts-and-bolts of how to do research, something students will likely receive in a research method class. Weinert, Schrader, and Helmke (1990) draw attention to traditional research skill development in undergraduate students as a disjointed practice that usually includes one of two approaches: 1) a one-shot course approach, separate from the content courses and in the form of a methodology course (Payne, Lyon and Anderson, 1989; Weiss 1987), or 2) a requirement to do research, limiting the practical ability to use this knowledge in real world settings (Schmid,
1992). According to Weinert et al. (1990), students have reported that these classes are difficult and irrelevant; the authors suggest that research skills be taught actively, in all classes, thus shedding the back hall isolation of university academics. The approach presented in this article coincides with Weinert et al. (1990) but provides a third option to the traditional models for undergraduate research education. It is an initial step to integrate research into the undergraduate experience by making faculty research more transparent and enjoyable.


Active learning is intended to puncture the surface approach or the typical reproduction of material studied through memorization or routine procedures (Dart, Burnett, Boulton-Lewis, Campbell, Smith and McCrindle, 1999). Deep learning is characterized by seeking meaning and understanding of class material through elaborating and transforming the material (Biggs, 1989; Marton and Saljo, 1984). This method is associated with constructivist teaching (Dart, 1997) which emphasizes that learners actively construct knowledge for themselves through process. Compared to students in surface approach education, those engaged in deep learning reported the classroom as more personal (in regard to relationships with the teacher), more immersive, and felt the environment encouraged inquiry strategies (Dart et al., 1999).

According to Dart et al. (1999) students desire more personalization in their learning environments, more active involvement in their education, more opportunities to make decisions and have control over their learning, and more emphasis on the use of inquiry strategies for problem solving. The authors conclude that it is beneficial to create learning environments in which students’ feelings are considered. Guided by this recommendation the “letters of gratitude” assignment was converted into a research project. Expressive writing would link each participant through feelings of gratitude, requiring them to connect with others through vital engagement. Expounding on personal gratitude was intended to swell curiosity and embed class concepts in a meaningful way.

III. Student Exposure to Active Faculty Research.

In an investigation for the advancement of university learning and teaching-research relations, Trigwell (2005) reported that contact with active scholars was a powerful and positive influence on students. Over 72% of undergraduate students at the University of Oxford agreed that they benefit from contact with active scholars, and less than 7% disagree. When students feel that they benefit more, they more frequently report an adoption of a deep approach to their learning, are prone to experience satisfaction with their courses, and exhibit a higher quality of learning (Trigwell, 2005).

IV. Faculty and Programmatic Benefits.

According to Davis and Sandifer-Stech (2006) a serious dilemma facing many applied fields, from medicine to psychology to family studies, is the research-practice gap (Addis, Wade, and Hattis, 1999; Chambless and Ollendick, 2001; Greenberg, 1994; Lavee and Dollahite, 1991; Willinsky, 2000; Wolfe, 1999). For the instructor-investigator it is a practice that amounts to the search for synergy, increased conscientiousness and time management.
Typical faculty concerns might revolve around increased preparation for such projects. However, the process is simple in the sense that such projects may lead to publication, reducing the typical teaching-research tug-of-war nature. It should also be of no small consequence that learning should be facilitated not only by the students but for the instructor. If research is already part of one’s agenda, it is a matter of finding topics that fit with one’s program of research and the curriculum.

V. The Project.

The assignment was called “Letters of Gratitude” and involved a short letter writing campaign consisting of three letters to be mailed over the course of the semester, each about 2-weeks apart. Letters had to express gratitude toward a real person. The letters could not be trivial “thank you” notes for a gift.

The research project was constructed for an upper division, semester-long course (15-weeks) called Building Family Strengths offered by a Human Development and Family Studies department at a Midwest University. This three credit hour course has strong themes of positive psychology, resilience, and the strengths perspective. One of the assignments was based on a central course theme – increasing wellness and quality of life through engaging others. A chapter in one of the required course text books, “Doing well by doing good: Benefits for the benefactor” (Piliavin, 2003, pg. 227), distilled this broad theme into a focused discussion on the dual-sided advantages of reaching out to others in the form of volunteer work, vital engagement, community service, and well-being. The Letters of Gratitude project was a hands-on and process oriented method for improving, arguably, one of the most important aspects of the Human Development and Family Studies discipline – quality of life. The literature points to several key concepts such as altruism and kind acts as a source for improved mood or happiness (Lyubomirsky, Sousa and Dickerhoof, 2006), self-concept (Harris, 1977; Eccles and Barber, 1999), and subjective well-being (Pennebaker, 2004; Lepore and Smyth, 2002). The Letters of Gratitude assignment focused on three qualities of subjective well-being (SWB): happiness, life satisfaction, and gratitude.

By design, the assignment required active engagement via writing and mailing the letters to real people. In problem-based learning, activities center on a “problem” or “topic” that students work to solve (Wilkerson and Gijseelaers, 1996). The Letters of Gratitude assignment demonstrated how to improve well-being in concrete ways. The assignment also illustrated the difference between indirect and direct sampling, a central theme in the literature on volunteer work as a method to improve health for the volunteer.

The assignment contained some collaborative qualities but those were limited to doing the project as a class and receiving detailed feedback about their effort during the debriefing. Service-learning involves active learning projects that are beneficial to the community. In this project, service-learning was restricted to the benefit of the three recipients of the letters. Each of these criteria can be used to teach and integrate teaching and research for students. The Letters of Gratitude assignment was designed to tap these deeper constructs in the aforementioned ways. Additionally, this project was implemented as an initial step to expose undergraduates to research in a digestible way that might enhance the perception of faculty scholarship.

The intent was to explore written expression and vital engagement as a vehicle to improve author well-being – benefits for the benefactor. The desired outcome would be
Toepfer, S.

improvement that is reflected quantitatively (repeated measures analysis on factors of well-being: happiness, life-satisfaction, and gratitude) and qualitatively (participant feedback).

VI. Hypothesis.

Writing letters of gratitude was hypothesized to increase important qualities of well-being: happiness, life satisfaction, and gratitude. Improvement in these domains would continue to improve with practice and sustained letter writing, an unexplored question in an otherwise burgeoning literature on expressive writing. It was specifically hypothesized that writing letters of gratitude would increase well-being in two ways. First, all groups would improve over time with continued letter writing. The within groups expectation would be based on change compared to a pretest and the three subsequent letters. Second, each variable was expected to increase when compared to the control group.

VII. Methods.

Surveys took approximately 15 minutes to complete and included a 2-page demographic survey that was developed by the present author, the Gratitude Questionnaire (McCullough, Emmons and Tsang, 2002), the Satisfaction with Life Scale (Diener, Emmons, Larson and Griffin, 1985), the Subjective Happiness Scale (Lyubomirsky and Lepper, 1999), and an exit survey which included questions regarding participant experience and time spent writing. The Gratitude Questionnaire – 6 (GQ6) is a brief self-report measure of the disposition toward experiencing gratitude. The GQ-6 has good internal reliability, with alphas between .82 and .87, and there is evidence that the GQ-6 is positively related to optimism, life satisfaction, hope, spirituality and religiousness, forgiveness, empathy and pro-social behavior, and negatively related to depression, anxiety, materialism and envy (McCullough, Emmons and Tsang, 2002). The Satisfaction with Life Scale (SLS) is a 5-item measure that assesses life satisfaction as a whole. The scale does not assess satisfaction with specific life domains, such as health or finances, but allows subjects to personally integrate and weigh these domains (Diener, Emmons, Larson and Griffin, 1985; Pavot, Diener, Colvin and Sandvik, 1991). The Subjective Happiness Scale (SHS) is a short 4-item questionnaire that quantifies subjective happiness with regard to absolute ratings and ratings relative to peers. The SHS has been validated in 14 studies with a total of 2,732 participants. Data have been collected internationally and from various age groups.

A. Procedure.

Participants were drawn from four classes on three campuses. Three of the classes were the Building Family Strengths class, conducted by three different instructors, in the university system. Participants received a minor grade for completing their assigned tasks. Students randomly assigned to the experimental group (n=44) were asked to either type or write by hand three letters of gratitude during the semester and were then compared to a control group (n=40). Harlyey, Sotto, and Pennebaker (2003) demonstrated that writing by hand versus word processor makes no significant difference nor do verbalizations, length of writing, number of sentences, number of paragraphs, and typographical or grammatical errors. As a result, students were permitted to use either method and instructed that letters were to be non-trivial (e.g., “Thank you for the wonderful Christmas gift,” or “I appreciate the ride to work”). Instead, letters were to
include something significant for which they felt gratitude toward the intended recipient of the letter. The expressive writing assignment was limited to three letters to avoid “over-practicing” or a plateau of diminishing returns (Brickman and Cambell, 1971; Lyubomirsky, King, and Diener, 2005).

The three well-being variables that were the focus of this study (happiness, life-satisfaction, and gratitude) were measured in both groups four times. The first measurement or time 1 (T1) occurred, for the experimental group, before any letters were written, acting as a within-group baseline measure. The succeeding three measurements were taken immediately after turning in each of the letters. Letters were examined, not to read, but to check against basic guidelines (e.g., non-triviality, author identification, return address, stamped envelope, etc.). The primary investigator was responsible for checking and mailing the letters.

B. Results.

Quantitative and qualitative analysis were used to examine participant experience. In terms of the quantitative analysis, significant results were found for happiness and gratitude but not life-satisfaction. Happiness showed statistically significant improvement after each and every letter within and between groups. Improvement in gratitude required a more sustained effort but showed a significant improvement over time. Qualitative data generated themes which appear to support the premise that the student-participant approach offers benefits for engaging and teaching students as research participants.

C. Quantitative Results.

Toepfer and Walker (2009) found that writing letters of gratitude improved both happiness and gratitude in the authors. The following results from that recent study on expressive writing and well-being are shown to illustrate the effects of the project. Table 1 presents the means of each group on the three scales (happiness, life-satisfaction, and gratitude) for each of the four measurement periods. A two-way repeated measures analysis of variance was performed for each scale. The between-subjects factor for each analysis was group (letter-writers vs. non-writers), and the within-subjects factor was time.

The results, presented in Table 2, show the two significant interactions that were obtained: happiness and gratitude.

Although both groups demonstrated an increase over the four testing periods, the letter-writing group increased in their happiness scores with larger increments over time. Specifically, the letter-writers increased at each time, with a final increase of 3.69 points. The non letter-writers increased from time 1 to time 2, but then decreased at time 3, and then increased slightly again at time 4. The final increase for non letter-writers was only 1.84 points. More importantly, the letter-writers, who started with a smaller initial mean than did the non letter-writers, ended with a larger mean at time 4.

The effect for time was also significant, but this finding only indicates that there was an overall difference among the four testing periods when group was not considered. The means for happiness summed over group were the following: time 1 = 19.06; time 2 = 20.70; time 3 = 21.11; time 4 = 21.85. The difference from time 1 to time 4 was 2.79 points. The simple effects analysis between groups for each time was not significant for happiness.
Table 1. Means for happiness, life-satisfaction, and gratitude over time.

<table>
<thead>
<tr>
<th></th>
<th>Time</th>
<th>Combined Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Happiness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letter-writers</td>
<td>18.69</td>
<td>20.31</td>
</tr>
<tr>
<td>Non writers</td>
<td>19.58</td>
<td>21.21</td>
</tr>
<tr>
<td>Combined Groups</td>
<td>19.10</td>
<td>20.70</td>
</tr>
<tr>
<td>Life Satisfaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letter-writers</td>
<td>5.18</td>
<td>5.51</td>
</tr>
<tr>
<td>Non writers</td>
<td>5.16</td>
<td>5.22</td>
</tr>
<tr>
<td>Combined Groups</td>
<td>5.17</td>
<td>5.36</td>
</tr>
<tr>
<td>Gratitude</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letter-writers</td>
<td>35.73</td>
<td>36.13</td>
</tr>
<tr>
<td>Non writers</td>
<td>35.14</td>
<td>35.16</td>
</tr>
<tr>
<td>Combined Groups</td>
<td>35.43</td>
<td>35.65</td>
</tr>
</tbody>
</table>

Table 2. Repeated measures ANNOVA for happiness, life-satisfaction, and gratitude.

<table>
<thead>
<tr>
<th></th>
<th>Time</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Happiness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between-subjects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>1</td>
<td>0.62</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>80</td>
<td>57.97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within-subjects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>3</td>
<td>113.06</td>
<td>45.88*</td>
<td></td>
</tr>
<tr>
<td>Time x Group</td>
<td>3</td>
<td>19.48</td>
<td>7.91*</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>240</td>
<td>2.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gratitude</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between-subjects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>1</td>
<td>222.05</td>
<td>2.30</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>80</td>
<td>96.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within-subjects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>3</td>
<td>2.74</td>
<td>0.371</td>
<td></td>
</tr>
<tr>
<td>Time x Group</td>
<td>3</td>
<td>25.38</td>
<td>3.43*</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>240</td>
<td>7.40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01
There was an interaction between the two groups on gratitude. The scores on gratitude for the non letter-writing group actually decreased over time, whereas the scores for the letter-writing group increased. The letter-writers demonstrated an overall increase of 1.07 points from time 1 to time 4, whereas the non letter-writers demonstrated an overall decrease of 1.44 points. The simple effects examining the difference between the two groups at each time showed that the letter-writers and non letter-writers were significantly different in their gratitude at time 4 (F=7.32; df=1,80; p<0.01). The mean difference between the two groups at time 4 was 3.10.

Regarding life satisfaction, the two groups demonstrated slight, consistent increases in life satisfaction over the four times, but no interaction was found. The effect for time was significant when group was not taken into consideration. However, the difference between time 1 and time 4 was only 0.31. No significant simple effects were found for time between life-satisfaction groups.

D. Qualitative Participant Feedback.

In addition, qualitative participant feedback provided by the experimental group was overwhelmingly positive (see appendix). The feedback formed numerous themes: curiosity about the research, enjoyment, a positive reciprocal interaction between authors and recipients, and a desire to continue the practice. This was accomplished in a relatively short time frame. These themes suggest that reaching out to others could affect additional factors that were discussed in class; improved interpersonal interaction, fortifying the social buffering hypothesis, reciprocity, and positive emotional feelings.

The letters of gratitude project, and by extension similar projects which are embedded in course content, offer a way to educate student participants about research, ignite curiosity, and provide a glimpse of what lies behind a research article. Student-participants reported the experience as highly positive. Descriptive data documented enhanced student engagement and interest. When letter writers were asked if the assignment helped them better understand the related concepts 92% said yes. Eighty-eight percent reported they would participate in the assignment again. Compared to other university assignments, 75% said the experience was more enjoyable. Seventy-five percent said they plan to write letters of gratitude after the course was completed. Finally, 55% reported that the assignment had changed their feelings about writing such letters (some participants reported already using similar practices, usually in the form of “thank you” cards, but thought the exercise enhanced the preexisting value of the act). These responses were based on three short installments of letter writing which took 10-15 minutes, on average, to complete. Sixty-eight percent typed the letters, 20% were hand-written, while 13% mixed the two methods of composition.

Students in all participating classes expressed interest in learning more about the study, even the control groups who did nothing more than fill out the questionnaires four times. Three of the four classes asked to talk with the primary investigator. As a result, every class was debriefed after the data were collected. Students asked questions, made suggestions, and even inquired about the tenure process.

E. Summary.

The project integrated undergraduates in faculty research and demonstrated three important outcomes of doing so. First, the data show that student participation improved happiness and
gratitude, a significant finding in the world of positive psychology and family studies. This is no small byproduct for the cost of tuition and three stamps. Second, the written feedback showed how the letters of gratitude project engaged student participants in understanding research methodology and course content. As a teaching tool this is a valuable resource. Finally, a professor was afforded the opportunity to engage in research while teaching and in such a way as to allow him to unpack and explain not only the research results but the investigatory process. Synthesizing teaching and research linked two domains that are too often mutually exclusive pursuits of the university professor. As scholars, the professor’s ultimate goal is to enhance the state of knowledge in our respective fields and disseminate that knowledge. As researchers, professors do this primarily by conducting research, writing books and articles, and serving on professional organizations; as teachers, through direct contact with our students in the classroom (Vroom, 2007). The present project sought to make a practice of synthesizing divergent aspects of the university professor’s job (teaching and research) to the benefit of both student learning and the creation of scholarly work. The nexus for this active learning approach was accomplished in the classroom and proved useful on multiple levels. There were, however, aspects of the project that could be enhanced.

The practice of doing research with those we teach has clear limitations. First, if not careful, samples of convenience may present methodological issues. Inherent problems with such samples include homogeneity, uncontrolled confounds, sampling issues, and the restricted ability to generalize findings. The risks can be diminished with proper design but the level of risk is variable depending on the aim of the project. If the duel goals of the method presented here are accomplished: improved student understanding of research and a sound scholarly outcome, the benefits can be significant because the project is used as an instructional tool. Second, and related to the sample of convenience, is that prescribing students to the role of research participant contributes to the over production of data from possibly the most over represented group of subjects on the planet - college students. In addition, random sampling may be problematic. In the case of the letters of gratitude, the experimental group, those students writing the letters, would have to be balanced with randomized controls. A related confound is the problem of the timing of the assignments with the semester. Could the end of the semester bring added stress, or in the case of a class like Building Family Strengths, improve aspects of subjective well-being? Third is the issue of time. This type of project requires a shorter time frame. Restricting the process to a single semester is ideal in order to provide students with feedback but it does narrow the window for discussing the process with students. Fourth, some topics work for this type of practice while other may not. Clearly, topics that require a longitudinal design would not work. Some concepts are more appropriate for short-term investigation than others. In the future, similar research might be enhanced by adding pre- and post-test measures of course content mastery.

To maximize this experience, the present author suggests that such projects are employed during or after an introduction to research methods and design. Research methodology courses, often guided by a dense curriculum, have been called the “one shot approach” that remains unpopular with students and faculty (Scheel, 2002). Projects like the letters of gratitude example can pique student interest and may be a good supplemental option in a methods course or an additional experience outside such a class. The project works best if students are debriefed and the process explained. Campus subject pools should be established whenever possible. Research I Universities often construct subject pools but at many small colleges and regional campuses this is not an option. The present approach, when used correctly, may help build sample size on
smaller campuses. Finally, professors need to know their audience. Non-majors in an introduction course, for example, may have little interest and be better suited for the control group. However, this potentially eliminates the “randomness” of assignment and introduces potential selectivity problems.

In conclusion, this project demonstrated a method to engage undergraduates in course content in a practical manner while simultaneously producing research. According to student feedback, participation fundamentally changed the way they were typically exposed to faculty research and enhanced the learning experience. Due to the active and deep learning methods, as well as the project design, students ventured beyond the assigned reading; they experienced the growth and change that comes from doing. Faculty can opt out of the tug-of-war relationship between research and teaching, at least for the duration of such a project, and engage in a collaborative tightrope adventure. For both student and faculty, assignments that can be converted into research projects close the teaching-research gap and demonstrate that those who teach can do.

Appendix 1. Transcript of Participant Feedback.

The following is a transcript of the available and exact written responses by student-participants. These responses are from those in the experimental (letter writers) group.

- I felt very good when the recipients were so touched! They made a point to let me know how thankful they were.
- My grandparents were very happy and loved the letter they received from me. It was a good assignment to do throughout this course.
- Writing these letters touched a lot of sensitive issues for me but it felt good writing them.
- I thought it was a nice way to show appreciation to those in your life you may not show as often as you would like.
- I feel the letters of Gratitude made people realize that they're important and that they mean something to me and that I greatly appreciate them for being a big part in my life.
- Writing the letters helped me remember the best parts of the person I was writing to and it felt good to let them know how I appreciated them.
- This was very enjoyable. The people that receive the letter loved their letters and are keeping them in a file or a special place.
- It was nice to be able to share our feelings w/ the people we love. It helped me remember why I loved them so much.
- It allowed me to express my feelings to people who don't openly express their feelings.
- I enjoyed writing them. One letter opened the door to talk to my sister in-law about things that we both needed someone to talk to.
- It was a short and easy assignment that improved my karma. I liked it.
- I enjoyed writing these letters and will continue to the ones that are important to me.
- It makes people feel happy, even though you know they are thankful already, for them to receive something in the mail with words of gratitude. I received thanks from them in the mail that made me feel special as well.
- The people I sent them to felt good which made me feel good. Good Activity.
- I just wanted to say that I think it was great to show people how much you really care about them.
Everyone I wrote to appreciated the letter and I felt really good about writing them.

BAD - others reading it besides me + the person I write to. GOOD- feel good to finally write to someone I have been meaning to contact. Overall, good idea for assignment!

Very good, I've received feedback from 2 of the people I wrote letters to and they were very thankful + appreciative I have since wrote 2 additional letters to people + have made phone calls to other's thanking them for help, GREAT project.

The following responses show all available negative and neutral feedback.

- It felt forced, I did not like the fact that we had to mail them. This was just not something I, or my family would do so I did not like it very much.
- I enjoyed writing the letters of gratitude, although I felt culturally awkward at times. (not many people do this) I hope the receivers feel appreciated.
- I hated it.

References


Toepfer, S.


