Improving Student Outcomes of Community-Based Programs Through Peer-to-Peer Conversation

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Scholars and organizations have called for a renewed emphasis on civic outcomes of higher education such as active citizenship, civic engagement, and social responsibility (Adelman, Ewell, Gaston, & Schneider, 2014; National Task Force, 2012). These and other authors (e.g., Schamber & Mahoney, 2008; Steinberg, Hatcher, & Bringle, 2011) cite student participation in community-based programs (CBP) as a catalyst to the development of these essential civic outcomes. CBP are often formally connected to courses, such as service learning (Jacoby & Ehrlich, 2009) or public scholarship (Cahill & Fine, 2014), but can also be free-standing, such as neighborhood partnerships (Guarasci, 2014; Reason, 2013). Steinberg and colleagues (2011) found that participation in CBP contributed “to a graduate’s ability and sense of responsibility to become an active and engaged citizen” (p. 19).

The importance of reflection and discussion to student learning are common findings within the literature (Mabry, 1998; Steinberg et al., 2011). Schamber and Mahoney (2008), for example, applied Kolb’s experiential learning theory to explore the effects of community-based learning experiences on engaged citizenship and civic development.

They explained that community-based learning experiences engage students in active learning, help students understand how their personal actions affect social issues, and promote students’ civic engagement. The integration of a critical understanding of social issues into community-based experiences should allow students to engage in more meaningful reflection and discussion. Previous studies have shown that service learning, as a civic and academic pedagogy, is more effective when students discuss their experiences with instructors and site supervisors (Mabry, 1998). We did not find any studies that focus on the effect of peer-to-peer discussion as a mechanism to encourage reflection and learning in CBP. The absence of study on peer-to-peer discussion means we might be overlooking an important pedagogical tool to encourage civic outcomes from CBP.

Smith and colleagues (2009) cited a number of studies outside of civic engagement that support the value of peer discussion. Discussion is an effective pedagogical strategy because it engages students with peers and instructors, enhances learning, and promotes understanding. In a study more directly related to civic engagement, Klofstad (2010) found a direct connection between “civic
talk” (p. 2353) among peers and increased civic participation, reinforcing our belief that infusing more peer-to-peer discussion into CBP should improve learning and learning environments. We explored how peer-to-peer discussion, as part of CBP, affects two civic outcomes: the importance college students place on contributing to the larger community and their self-reported development of personal and social responsibility.

THEORETICAL FRAMEWORK

Baker, Jensen, and Kolb (2002) proposed a conversational learning framework, grounded in experiential learning theory, which encouraged researchers to explore the role of discussion within the learning process. Scholars have posited that learning takes place in relationships via communicative processes (Cooks & Scharrer, 2006). Conversation serves as a way to make meaning from experiences and, thus, learn. Creating safe and welcoming spaces that foster good conversation and provide opportunities for reflection is an essential part of the learning process (Baker et al., 2002).

RESEARCH DESIGN AND METHODS

We used the Personal and Social Responsibility Inventory (PSRI), a nationally available campus climate assessment, for this study. The PSRI, which assesses individual students’ behavior and perceptions of campus climate related to civic learning in higher education, was developed in 2006 as part of the Core Commitments Initiative of the Association of American Colleges and Universities (Dey, Barnhardt, Antonaros, Ott, & Holsapple, 2009). We used data from 12,745 undergraduate students (50% White, 66% female, and 35% college senior) at 19 colleges and universities to answer two primary research questions, each comprising two parts:

1. How does participation in CBP and engaging in meaningful peer-to-peer discussion affect (a) perceptions of the importance of contributing to a larger community, and (b) development of personal and social responsibility?

2. Do meaningful discussions mediate the effect of CBP on (a) perceptions of the importance of contributing to a larger community, and (b) development of personal and social responsibility?

The outcome variables were created using factor analysis to determine statistically and conceptually related constructs. Both outcome variables use a 5-point scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Perceptions of the importance of contributing to a larger community ($\alpha = 0.82, M = 3.99, SD = 0.77$) is comprised of 4 items asking students to rate the importance the campus places on contributing to a larger community. Students’ development of personal and social responsibility ($\alpha = 0.88, M = 3.96, SD = 0.76$) is comprised of 7 items asking students to rate the extent to which their experiences on campus increased their sense of personal and social responsibility.

Prior to analysis, we imputed missing data and weighted the sample by students’ sex, class year, and race (White/non-White) to account for nonresponse (Pike, 2007). Blockwise linear regression, in which data are entered in a series of theoretically related blocks, was the primary analytic tool for research Question 1. Entering the variables in blocks allowed us to parse the unique effects of each set of variables. We first entered students’ demographic characteristics (Block 1), followed by variables related to peer-to-peer discussions about the greater good, participation in CBP as part of a course, and participation in CBP outside of courses (Block 2). Items from Block 2 use a 5-point scale.
ranging from 1 \((\text{Almost Never})\) to 5 \((\text{Almost}
\text{Always})\). We repeated this process for both outcome
variables.

The direct effects of CBP on outcome variables are well understood from existing
literature; however, we may not have a full understanding of the effects of infusing peer-
to-peer discussion into CBP, because some of the total effects of CBP on the outcomes might
be indirect through a mediating variable. Mediating variables affect the relationship
between predictor and outcomes variables (Baron & Kenny, 1986). Based on our
theoretical framework, we hypothesized that peer-to-peer discussion would serve
as the mediator variable and increase the positive effects of participation in CBP on
the two outcome variables. We, therefore, conducted mediation analysis (Preacher &
Hayes, 2008), which allowed us to identify and explain the relationships that exist between
and among the predictor (CBP), mediator (peer discussion), and outcome variables
(perceptions and development).

**FINDINGS AND IMPLICATIONS**

Students who reported more participation in CBP, regardless of whether the CBP was
connected to a course, also reported more positive assessments of the importance of
contributing to community and greater development of personal and social responsi-
bility. Peer-to-peer discussion and participation in CBP were significant predictors of students’
perceptions of the importance of contributing to community \((R^2 = .182, \ R^2\Delta = .162, \ p < .001)\). The inclusion of these variables accounted for
18.2% of the variance in perceptions of the importance of contributing to community, 16.2% more variance than demographics alone. Meaningful discussion with peers was
the greatest predictor of importance placed on contributing to a larger community \((\beta = .237)\).

Engaging in meaningful discussions with peers and participating in CBP also
significantly predicted students’ development of personal and social responsibility \((R^2 = .192, \ R^2\Delta = .175, \ p < .001)\). Including peer-to-peer
discussion and participation in CBP accounted for 19.2% of the variance in development of
personal and social responsibility, 17.5% more variance than demographics alone. Meaningful
discussion with peers was the most powerful predictor of students’ development of personal
and social responsibility \((\beta = .269)\).

The results of the mediation analysis (Table 1) indicated that peer-to-peer discussions
served as a mediator between participation in CBP and both outcome variables. That is to
say, the positive influence of participating in CBP was stronger when students also engaged
in peer-to-peer discussion. The addition of peer-to-peer discussion accounted for a 42% to
58% positive change in the effects of CBP on the outcome variables; including peer-to-peer
discussions as part of CBP magnifies the effects of CBP on the importance of contributing
to community and students’ development of personal and social responsibility. The
effect is in addition to the positive effects of participating in CBP and occurs regardless of
students’ race, sex, or class year.

Our findings indicate that educators should consider how they could intentionally infuse
meaningful peer-to-peer discussions into CBP and related experiences. For example, educators
should include meaningful discussions with peers as a formal learning exercise following
community-based experiences, including service learning or neighborhood partnerships.

Our findings suggest that educators should remove obstacles to peer-to-peer
discussions. Welcoming spaces, where students feel comfortable engaging in conversation,
aid in meaningful discussions and allow students to converse, construct meaning, and
create knowledge. As a means of promoting
intentional discussions, institutional resources should provide pedagogical support for educators, including training on how to employ effective reflection and discussion questions. Moreover, CBP should allow students to engage critically with community issues as a way to enhance the subsequent discussion and reflection. Students should apply their heightened understanding of social issues, which they integrated into their community-based experience, to engage in more structured reflection and meaningful discussion.

Future Directions

Future studies could examine discussion and reflection practices related to CBP to identify good practices for promoting learning and discussion. Future research could examine where discussion occurs—in a structured environment connected to the CBP or later with peers in an informal setting. Because our mediator variable only provided partial mediation, our findings suggest the possibility of additional mediator variables that could be explored through future research.

CONCLUSION

Previous scholarship established the relationship between CBP and civic outcomes (Steinberg et al., 2011) as well as the importance of students’ discussions with instructors and site supervisors in strengthening outcomes of CBP (Mabry, 1998). We found no research, however, into the effects of peer-to-peer discussions on the civic learning outcomes of

### TABLE 1.
Effects of CBP on Outcome Variables Through Peer-to-Peer Discussion
\((N = 12,745)\)

<table>
<thead>
<tr>
<th>Effect</th>
<th>Estimate</th>
<th>SE</th>
<th>t</th>
<th>95% Bias-Corrected CI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effects of CBP(_i) on contributing to community</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>.1911</td>
<td>.0053</td>
<td>36.1119***</td>
<td></td>
</tr>
<tr>
<td>Direct</td>
<td>.1108</td>
<td>.0057</td>
<td>19.3869***</td>
<td></td>
</tr>
<tr>
<td>Indirect</td>
<td>.0804</td>
<td>.0032</td>
<td></td>
<td>[.0744, .0866]</td>
</tr>
<tr>
<td><strong>Effects of CBP(_o) on contributing to community</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>.1910</td>
<td>.0052</td>
<td>36.6332***</td>
<td></td>
</tr>
<tr>
<td>Direct</td>
<td>.0990</td>
<td>.0060</td>
<td>16.5732***</td>
<td></td>
</tr>
<tr>
<td>Indirect</td>
<td>.0920</td>
<td>.0038</td>
<td></td>
<td>[.0848, .0996]</td>
</tr>
<tr>
<td><strong>Effects of CBP(_i) on PSR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>.1997</td>
<td>.0052</td>
<td>38.4117***</td>
<td></td>
</tr>
<tr>
<td>Direct</td>
<td>.1163</td>
<td>.0056</td>
<td>20.8092***</td>
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<tr>
<td>Indirect</td>
<td>.0834</td>
<td>.0031</td>
<td></td>
<td>[.0775, .0897]</td>
</tr>
<tr>
<td><strong>Effects of CBP(_o) on PSR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>.1789</td>
<td>.0052</td>
<td>34.5362***</td>
<td></td>
</tr>
<tr>
<td>Direct</td>
<td>.0753</td>
<td>.0059</td>
<td>12.7968***</td>
<td></td>
</tr>
<tr>
<td>Indirect</td>
<td>.1038</td>
<td>.0038</td>
<td></td>
<td>[.0963, .1114]</td>
</tr>
</tbody>
</table>

*Note. CBP\(_i\) = connected to a course; CBP\(_o\) = not connected to a course.*

***p < .001.
CBP, leaving a gap in understanding about a potentially powerful pedagogical technique. Our findings indicate that incorporating peer-to-peer discussion magnified the effects of CBP on two essential civic learning outcomes: the importance students place on contributing to a larger community and students’ development of personal and social responsibility. As educators reengage with the civic mission of higher education, especially the promotion of civic learning outcomes through community-based experiences, they should infuse peer-to-peer discussions into their pedagogical practices as a means to effectively promote learning.

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REFERENCES


