



## Project-Based Learning in the Social Sciences

Kimberly LeChasseur, PhD • Center for Project-Based Learning • October 2021

### Briefer Brief

- There is literature on the use of PBL across the range of social science disciplines, though some appear to have been more likely to adopt student-centered practices (e.g., geography) than others (e.g., economics).
- There is emerging evidence that PBL can be deployed to successfully revitalize social science foundations, improving student engagement and mastery of conceptual content (e.g., Vallera, 2019) as well as core analytical techniques (e.g., Dierker et al., 2018; Medley-Rath & Morgan, 2021).
- PBL has been demonstrated to successfully foreground social context in three areas of social science education: teaching students how to navigate local contexts (Bennion & Laughlin, 2018), including cultural competency, and their positionality within global systems (BaracsKay, 2020); structuring study abroad experiences to deepen learning (Demetry & Vaz, 2017; Jiusto & Vaz, 2016); and situating STEM within human systems (Wiek, Xiong, Brundiers, & Van Der Leeuw, 2014).
- Much of the available literature documents use of PBL in single courses, rather than showing systematic, generalizable findings.

### Introduction

The value of project-based learning (PBL) and related student-centered, experiential pedagogies at the college level has been firmly established as its use has become increasingly widespread.<sup>1</sup> There is an overwhelming wealth of evidence that PBL has a moderate positive impact on a wide variety of outcomes at the college level.<sup>2</sup> However, much of what we know about PBL at the tertiary level has been determined in STEM, particularly in engineering.

Although PBL is not nearly as widespread in the social sciences, this is not because it does not provide an equally valuable experience. Across social science disciplines, PBL has been cited as a means to engage students and embed career training into existing undergraduate programs.<sup>3</sup> This research brief focuses on the implementation and impact of PBL in the social sciences, particularly at the undergraduate level. The first section lays out the arguments and evidence for using PBL to strengthen how foundational knowledge and tools are taught in the social sciences. The following section assesses the evidence for using PBL to foreground social context in a variety of ways. The brief then summarizes exemplar case studies on the use of PBL by field as a guide to further targeted reading and provides reflections on next steps for unpacking the potential of PBL for the social sciences.

### Using PBL to Revitalize Social Science Foundations

In much of the literature, projects are most often embedded in capstones and other advanced coursework.<sup>4</sup> However, there is emerging evidence that PBL can be deployed to successfully teach students the foundations of social science, improving student engagement and mastery of conceptual content as well as core analytical techniques. This can be particularly valuable for courses that have developed a reputation for covering content that is difficult to grasp via traditional teacher-centered learning experiences (e.g., lecture).<sup>5</sup>

Some scholars have described how PBL can be used to strengthen foundations in social science programs by making core content more engaging. Vallera (2019) describes how PBL enhanced with digital storytelling and augmented reality can help students grasp classical sociological theories and the motivations driving theory construction. A few social science educators have also advocated for using PBL to embed critical content that is often only covered in advanced courses earlier into the curriculum; for example, facilitating student understanding of gerrymandering,<sup>6</sup> addressing grand challenges to global development,<sup>7</sup> and conveying a variety of economics core concepts.<sup>8</sup>

Others have noted the fit between PBL and learning how to apply social science methods to real-world problem solving. PBL and related student-centered, experiential assignments have been documented to scaffold student learning about archival data analysis in sociology,<sup>9</sup> content analysis in research methods courses in criminology,<sup>10</sup> participatory action research using Geographic Information Systems tools in geography,<sup>11</sup> and research methods<sup>12</sup> and statistics in psychology.<sup>13</sup> There is evidence to suggest that students who engage in projects to practice research methods beyond dedicated methods courses have increased confidence with research design and methodological knowledge.<sup>14</sup>

Dierker and colleagues (2018) explored a PBL-based introductory statistics curriculum across a variety of institutional types. They found that PBL was useful across settings, though there were some noteworthy differences: students in regional colleges/universities and community colleges were more challenged and had to work harder, whereas students in liberal arts colleges had more positive course experiences. Students in regional colleges/universities benefited the most from the PBL course. Consideration of how PBL benefits different students in the social sciences may be worth further consideration than this one study.

However impactful, these examples of PBL use are still the exception, rather than typical pedagogy. Wiggins and colleagues (2016) provide a well-rounded overview of how PBL might be deployed in undergraduate psychology courses. A set of 24 published studies of PBL in psychology from multiple countries are reviewed, noting that the majority were situated within programs in which PBL is uncommon. Despite being an uncommon approach within each study's local psychology program, the review found evidence that PBL improved critical thinking skills within the

context of psychology curricula. However, efficacy of PBL in these studies varied somewhat, with some courses reporting traditional midterm grades lowered as students adjust to new expectations of ownership, the ambiguity involved in solving authentic problems, and, often, learning how to function effectively as a team.

### Foregrounding Social Context in PBL

Across the social sciences, PBL can be used to enhance student awareness of the impact social contexts have on human endeavors, as well as to impart an array of skills for managing the particular complexities of social contexts. The scholarship demonstrating PBL's success in foregrounding social context is clustered around three areas of social science education: teaching students how to navigate local contexts, including cultural competency and their positionality within global systems; structuring study abroad experiences to deepen learning; and situating STEM within human systems.

There is a long history of using local contexts to create living laboratories for social science courses.<sup>15</sup> PBL is one student-centered approach to community-engaged learning—and many others have elements similar to PBL, even if not referenced as such.<sup>16</sup> In their review of best practices for teaching civic education, Bennion and Laughlin (2018) include PBL that uses Geographic Information Systems (GIS) to conduct neighborhood analyses of local political conflicts. In a review of pedagogies for teaching diversity, cultural competency, and global awareness in public administration, Baracskey (2020) notes the demonstrated potential of PBL. Promoting global citizenship skills through PBL has been demonstrated to be effective not only in small topical seminars,<sup>17</sup> but also in large enrollment political science courses.<sup>18</sup>

International project experiences have been embraced by a growing group of institutions whose study abroad programs leverage PBL rather than offer credit for courses completed at international universities. Hosman and Jacobs (2018) describe tools and strategies used in a team-based, project-focused, multidisciplinary course with international travel from California Polytechnic State University. The study takes an international relations lens to advocate for greater attention to PBL in political science programs.

All students at Worcester Polytechnic Institute must complete a PBL experience at the intersection of science and society, with the majority of students doing so at one

of more than 50 international project centers. The impacts on student learning that have been examined include intercultural sensitivity,<sup>19</sup> critical thinking,<sup>20</sup> information use,<sup>21</sup> resilience during ambiguity,<sup>22</sup> civic understanding,<sup>23</sup> and other skills and dispositions.<sup>24</sup> In these and other similar programs, PBL deepens the learning that takes place abroad through authentic collaboration with stakeholders<sup>25</sup> and hands-on application of theory to wicked problems and grand challenges.

Much attention has also been paid to the ways PBL can enhance interdisciplinary courses that situate STEM within the social sciences. For example, Lusk, Proffitt, and Ullrich (2017) describe how integrating PBL into global environmental politics courses can assist students who struggle to make connections among key foundational concepts, both within each disciplinary area and across

disciplines. Interdisciplinary courses on sustainability have widely adopted PBL to bring the social contexts of climate science into focus for undergraduate students.<sup>26</sup>

### **Case Studies of Project-Based Learning In FYEs**

Case studies that describe how PBL has been implemented in undergraduate social science courses can provide more details than are summarized in this brief. We have organized recommended reading by discipline (see Table 1). These are intended to be illustrative, including examples of PBL curricula, assessments, and considerations for implementation; this is not a comprehensive list, but a practical next step for exploring what PBL might look like in various undergraduate social science courses.

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**Table 1. Case Studies of Project-Based Learning in Social Science Discipline**

Discipline	Citation	PBL Practices Studied
Anthropology	Wies, J. (2018). Perceptions of Risk, Lives in Sacrifice: Service, Learning, and Liberation Pedagogy in Appalachia. <i>Teaching and Learning Anthropology</i> , 1(1).	Case study of a medical anthropology service-learning course partnering with the local community in Appalachia. Assignments operationalize anthropology methods to assess student content learning alongside identity development and community-based research collaboration.
Economics	Al-Bahrani, A., Libis, B., Drabik, S., & Gibson, J. (2017). Econ Beats: A Semester Long, Interdisciplinary, Project-Based Learning Assignment. <i>Journal of Economics and Finance Education</i> , 16(3).	Description of a semester-long interdisciplinary project for introductory-level economics courses. Students work with Media and Broadcasting students to create a music video explaining economic content. The assignment has been piloted at Northern Kentucky University in 9 courses with more than 300 students. Assignment details, tips for successful integration into existing courses, and an assessment rubric are provided.
Geography	Roberts, D., Bradley, E., Roth, K., Eckmann, T., & Still, C. (2010). Linking physical geography education and research through the development of an environmental sensing network and project-based learning. <i>Journal of Geoscience Education</i> , 58(5), 262-274.	The authors highlight the infrastructure used to embed PBL into an Environmental Data Analysis course. The pilot setting is University of California, Santa Barbara, with nine undergraduate upperclassmen participating. An analysis of the impact on student learning is included with comparisons to student learning in two similar geography courses.
Political Science	Hosman, L., & Jacobs, G. (2018). From active learning to taking action: incorporating political context into project-based, interdisciplinary, international service learning courses. <i>Journal of Political Science Education</i> , 14(4), 473-490.	This case study examines a course at California Polytechnic State University, Global Synthesis in Liberal Arts and Engineering Studies, through a political science lens. While the article encourages political science faculty to adopt project-based international service learning, suggestions for implementing this pedagogy without international travel are also included.
Psychology	Baglin, J., Bedford, A., & Bulmer, M. (2013). Students' experiences and perceptions of using a virtual environment for project-based assessment in an online introductory statistics course. <i>Technology Innovations in Statistics Education</i> , 7(2).	A simulated virtual environment is presented as a tool for facilitating project-based statistics assignments. The Island has hosted a simulated population of approximately 15,000 since its (fictional) origins in 1779. Detailed records on each community member and their households allow students to engage in PBL assignments without the costs associated with actual engagement with live participants.
Sociology	Vallera, F. L. (2019). Durkheim Said What?: Creating Talking Textbooks With Augmented Reality and Project-Based Activities. <i>Journal of Research on Technology in Education</i> , 51(3), 290-310.	This study examines the implementation and impact of using augmented reality tools to bring sociological theorists and their concepts to life as students engage in PBL. 51 students in three introductory sociology courses at a midsized suburban community college participated in the study. Findings suggest that augmented reality improved learning above and beyond traditional PBL.

## Conclusions & Future Research

The scholarship (and, likely, implementation) of PBL in the social sciences varies greatly across disciplines. The argument has been made that disciplines like economics, which value post-positivism and more abstract knowledge than applied, are less likely to see an intrinsic value in student-centered, experiential pedagogies.<sup>27</sup> Political science, psychology, and geography, while still not embracing PBL as a normative practice, have more faculty who have found applications for leveraging the authentic problem-driven aspects of PBL to convey traditional areas of coverage for degree programs.

Through scholarship of teaching and learning and discipline-based educational research, faculty have focused largely on demonstrating impact of pedagogies like PBL on students. Far less is known about what it takes

to motivate and support faculty to move from teacher-centered to student-centered strategies.<sup>28</sup> This evolution appears to be influenced by discipline cultures and norms. What would it take to convince more educators in social science departments to consider PBL? How does this vary by discipline? These are questions not yet examined in any depth.

As is broadly the case for research on PBL in colleges and universities, studies in the social sciences are currently limited in large part to self-study of scholars' own individual courses. This limits what we know to emergent tips and demonstrations of potential, rather than established, systematic trends. With few exceptions,<sup>29</sup> we have yet to unpack much about which conditions strengthen or diminish the influence of PBL on learning, the necessary dose of PBL needed to impart its promise, differential impact by institutional context or student identities.

## Notes

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**WPI**

Center for Project-Based Learning  
100 Institute Road  
Worcester, MA 01609  
508-831-6836  
[wpi.edu/projectbasedlearning](http://wpi.edu/projectbasedlearning)

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