

Measuring Students' Acquisition of 21st –Century Skills as a Result of the Side-by-Side Course Format

Project Description and Central Research Question

Drexel University introduced its Side-By-Side community-based learning format in 2012. The goal of the high-impact initiative is to bring together traditional Drexel students and disenfranchised community members from the University's surrounding West Philadelphia neighborhood as equal participants in postsecondary classes exploring significant social justice issues. By design, the Side-by-Side course format and pedagogy democratically engage diverse students while challenging them to apply their real-life knowledge as responsible citizens in the context of the course they are taking.

Since Side-By-Side's inception, the University has used it in more than 18 multi-disciplinary courses with approximately 270 community students. Course evaluations, while positive, have traditionally focused on Drexel students' opinions and academic course content achievement. They subsequently neglect to assess the emergence of 21st-century skills, or students' abilities to become civic professionals by fostering and transferring these skills to real world situations.

Therefore, the central research question of "Measuring Students' Acquisition of 21st -Century Skills as a Result of the Side-by-Side Course Format" is: Does the use of the Side-by-Side pedagogy increase Drexel and community students' acquisition of 21st-century skills, defined as: (1) experiences with diverse populations, (2) transferable skills, (3) civic engagement, (4) global perspectives, and (5) course engagement? This project will involve the revision of the National Student Survey of Engagement (NSSE) to create a new assessment tool measuring the acquisition of 21st-century skills in four topical modules, as well as analysis of the data collected by this new tool.

Summary of Relevant Literature

Graduating college students need to enter the workforce as civic-minded professionals who are equipped with the necessary 21st-century skills to thrive in an ever-changing global workforce. According to a 2013 survey conducted by Hart Research Associates on behalf of the American Association of Colleges & Universities (AAC&U), 74 percent of employers would recommend a "21st-century liberal education" wherein students develop "a sense of social responsibility; strong intellectual and practical skills that span all major fields of study, such as communication, analytical, and problem-solving skills; and the demonstrated ability to apply knowledge and skills in real-world settings" (AAC&U, 2015). Moreover, 75% of surveyed employers reported wanting more emphasis on five key areas: critical thinking, complex problem solving, written and oral communication, and applied knowledge in real-world settings (Hart, 2013).

As the need for 21st-century skills increases, the workforce is calling upon institutions of higher education to better prepare college graduates to succeed in a dynamic and diverse global economy (Boyels, 2012; Cobert, 2005; Binkely et al., 2012; "National Education Association," 2014). Boyels (2012) holds that the increased demand for a highly skilled workforce has contributed to the rising importance of obtaining a college education.

However, this and other recent studies indicate that newly hired college graduates do not demonstrate these 21st century skills at the level that employers desire.

Nationally, there has been growing concern about the country's weak civic health as indicated by AAC&U (2012). According to the report, educators must make civic learning and democratic engagement a national priority given that workplace, jobs, and skill demands are changing within our global economy (AAC&U, 2012). Consequently, higher education institutions and the workforce have begun articulating and implementing goals for young adults such as the ability to transfer knowledge and engage with diverse populations.

Conceptual Framework, Research Methods, Data Collection Instruments and Modes of Analysis

Conceptual framework: The framework for “Measuring Students’ Acquisition of 21st-Century Skills” is grounded in the history of civic learning in higher education, experiential learning theories, and high-impact practice as well as student learning outcomes within a community-based learning course. Eyler (2002) said that community-based learning is ideally suited to help students achieve both personal and academic goals, and also fosters broader civic engagement and social justice among communities. The results of this research seek to not only support Eyler’s notion but also suggest that the Side-By-Side course format may in fact increase both course engagement and 21st-century skills.

Research methods: The project's research team will revise the National Survey of Student Engagement (NSSE) for the purpose of measuring 21st-century skill attainment in college students and young adult community members as a result of participation in Side-By-Side courses. The annual NSSE survey assesses the extent to which students engage in educational practices associated with high levels of learning and development. The survey gauges students' involvement in empirically-derived good educational practices, and evaluates what they gain from their college experience (Kuh, 2001).

In 2013, NSSE appended topical modules that measure students’ experiences with diversity, global perspectives, civic engagement, and transferable skills. The project team will repurpose these modules to create a revised instrument that will capture both traditional college students’ and community students’ experience and perspectives before and after the Side-by-Side course intervention. Once repurposed, this instrument may also be applied to other forms of community engagement such as research and co-curricular activities at Drexel and other institutions of higher education.

Data collection instruments: The new survey instrument, developed by the research team to represent the perspective of the community members, will focus on those questions from the NSSE topical modules that are applicable to both college and community students. For example, questions about civic engagement and care for the community,

experiences with diverse populations and integrated learning are applicable to both university and community students. The adapted NSSE tool will be administered in eight Side-by-Side courses to approximately 240 enrolled Drexel and community students at weeks 1 and 10 during the 2016-17 academic year. The first survey distribution will establish a baseline measurement of students' self-reported 21st-century skills. Data obtained from pre- and post-survey distribution will be used to determine an increase in these skills. Additionally, the survey will be used to determine the level of engagement within the Side-by-Side course as compared with other college courses. The data from the survey will be analyzed within SPSS, Statistical Package for the Social Science.

Modes of analysis: Participants will be quantitatively assessed using a survey instrument modified from the NSSE topical modules. The survey relies on self-reported data. There are inherent threats to the validity and reliability of self-reported data; however, focus groups, cognitive testing, field tests, factor analysis, and larger psychometric analysis of the NSSE tool by Indiana University Bloomington has determined that the face and construct validity of the survey are strong (p. 23).

New Knowledge and Project Significance

Results from “Measuring Students’ Acquisition of 21st-Century Skills” will contribute to the scholarship of engagement and infuse the new language of necessary 21st-century skills and paradigms into the space of civic learning and democratic engagement. The survey tool developed from this research will not only allow institutions of higher education to document the necessary 21st-century skills students must acquire prior to graduation, but it will also challenge the existing literature to re-conceptualize the language of civic outcomes.

This project will be of primary educational value to community members, students and researchers in the social sciences (education, sociology, criminology, anthropology) interested in civic engagement. Project data will be made available for use by researchers as soon as completed and no later than the conclusion of the project. These materials will be widely and freely disseminated via a dedicated project website, which will be accessible from the website of Drexel's College of Arts and Sciences. Furthermore, the researchers will submit proposals to share information via presentations at such as International Association for Research on Service-Learning and Community Engagement, Coalition of Urban and Metropolitan Universities and the American Association of Colleges and Universities annual meetings, and journal publications such as *International Journal of Civic Engagement and Social Change* (IJCESC), *The Journal of Community Engagement and Scholarship* (JCES), and *The Journal of Higher Education Outreach and Engagement* (JHEOE).

As a result of lessons learned from implementing this program and compiling research, a series of training seminars can be developed and offered nationally to practitioners and scholars to be implemented on their own campuses. The seminars will cover such content

as: a review of the Side-By-Side course model; course design theory; establishing and maintaining effective partnerships; resources on privilege, race, and equality; research frameworks; and additional resources to ensure that participants can duplicate the Side-By-Side model on their own campuses.

Additionally, results from this study will provide the research team with the data and measurement tools to expand the Side-by-Side program at Drexel from 6 to 12 courses per year and eventually create a national course format model. Expanded course offerings will provide a larger sample size and a diverse disciplinary perspective. They will allow project leaders to not only test the revised NSSE instrument, but also explore the relationships among skill engagement, course discipline and differences in community and Drexel student experiences. Ultimately, this project will provide data to institutions of higher education who want to create or continue their own civic-minded educational courses and programs.

Principal Investigators and Roles

Cyndi Rickards, Ed.D.

Cyndi Rickards, an Assistant Teaching Professor in the Criminology and Justice Studies Department at Drexel University, will be the Principal Investigator. She comes to higher education with over a decade of experience in the criminal justice field, where her previous research explored racial disparities in urban juvenile drug use patterns. Dr. Rickards serves as the Senior Assistant Dean of Community Engagement for the College of Arts and Sciences at Drexel. Her current research focuses on the effect of civic engagement on student and faculty course experiences. Dr. Rickards will coordinate the Side-by-Side courses for this study, administer surveys, analyze data and report findings.

Wesley Shumar, Ph.D.

Wesley Shumar is a Professor of Anthropology at Drexel University whose research focuses on higher education, ethnographic evaluation in education and virtual educational communities. Since 1997 Dr. Shumar has worked as an ethnographer at the Math Forum (<http://mathforum.org/>), a virtual math education community and resource center. Currently he is Co-PI on EnCoMPASS, a four year NSF project designed to build a supportive online community of math teachers through formative assessment and a focus on student problem-solving. He is co-editor with Ann Renninger of *Building Virtual Communities: Learning and Change in Cyberspace* (Cambridge University Press). Dr. Shumar will repurpose the survey instrument with Dr. Rickards, analyze data and disseminate findings.

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