What Did We Learn? Assessment of an Interdisciplinary Student Project

Brandi Rima, Bronx Community College - CUNY, brandi.rima@bcc.cuny.edu
Crystal Rodriguez, Bronx Community College - CUNY

Abstract. Assessment is critical to effectively implementing interdisciplinary pedagogy in higher education. We developed an interdisciplinary project for an Introduction to Psychology and Introduction to Criminal Justice learning community at an urban community college. The semester-long project involved completing a series of lessons and assignments in both courses. The study objective was to evaluate the extent to which the interdisciplinary project supported students' learning, with attention to their academic skill development, progress on course learning outcomes, and academic progress in the psychology course. Data procedures included summative assessment of final paper submissions and collection of final paper grades and final grades in the psychology course across two cohorts of learning community students. Findings suggest the interdisciplinary project positively supported students' academic skill development, progress on course learning outcomes, and overall success in the psychology course. These findings demonstrate the value of interdisciplinary teaching and assessment. We offer the interdisciplinary project and assessment procedures presented here as models for higher education faculty interested in interdisciplinary pedagogical approaches.

Keywords: assessment; interdisciplinary pedagogy; learning communities; psychology; criminal justice

Assessment is central to effective pedagogy and student success in higher education. Benefits of integrating assessment into teaching include gaining a better understanding of how coursework supports student progress, how to enhance the feedback process, and which modifications to teaching strategies, lessons, and assignments are successful (Kesianye, 2015). In effort to effectively adopt assessment as part of our collaborative teaching work, we conducted an assessment study of an interdisciplinary class project entitled *The Kalief Browder Project*. We created the project as part of a learning community curriculum for first year criminal justice students. The objectives of this paper are to explain the interdisciplinary project and report on the assessment study procedures and findings. Faculty interested in collaborative, interdisciplinary pedagogy can use the student project and assessment procedures we describe here as models.

Interdisciplinary Pedagogy

Interdisciplinary teaching fully integrates two or more disciplines in academic study (Jones, 2009). The benefits of interdisciplinary instruction are multifaceted, including but not limited to helping students to develop college and career success skills, evaluate course content from diverse perspectives, perceive the connections among academic disciplines, network across college disciplines and departments, and enhance their communication and analytical skills (Jones, 2009; Kleinberg,

2008). Importantly, students value interdisciplinary learning as they enjoy their peer interactions and learning the intersections among disciplines (Knapp & Merges, 2017).

Merging the study of real-life events and "making meaning" into interdisciplinary teaching provides even more advantages. Examination of real-life events in interdisciplinary study can foster community among students and improve their understanding of academic and career opportunities (Knapp & Merges, 2017). Making meaning or reflective pedagogy is the practice of making connections among course content and students' own life experiences (Desjarlais & Smith, 2011). Faculty create making meaning in the classroom by purposefully teaching content that speaks to students' everyday lives (Guthrie & McCracken, 2010). This approach creates opportunities for students to identify, analyze, and connect to the course material.

Assessment

Assessment of interdisciplinary teaching and learning is important to measure student progress and success from these pedagogical practices. Because of the need for collaboration and creativity, interdisciplinary teaching can involve a fair amount of trial and error. Assessing student progress through their work on interdisciplinary initiatives enhances these pedagogical efforts. The assessment process typically begins with setting explicit goals for students' learning outcomes. With interdisciplinary teaching, the process includes an additional step with faculty agreeing upon the goals. Next, faculty develop a plan for how students can achieve the goals (Hutchings, 2019). Vehicles for assessment of student learning outcomes include pre and post surveys, rubrics, classroom-based performance assessments, capstone projects and exams (Hutchings, 2019; Jankowski et al., 2018; Wenninger, 2018). However, for new pedagogical approaches, the assessment of interdisciplinary teaching is best assessed using assignments such as projects, essays, and discussions (Mueller et al., 2014). Assessment should be designed for students to continue learning and develop skills in preparation for their future careers (Boud & Soler, 2016). The next step is to develop an objective rubric that can measure the students' learning through their work on projects, essays, and/or discussions. Assessment procedures can be conducted throughout (i.e., formative assessment) and/or at the completion of an instructional period (i.e., summative assessment; Dixson & Worrell, 2016). We adopted a summative assessment approach in the present study to give insight into overall student achievement and learning through the interdisciplinary project.

Additional resources and restructuring of the traditional college model allow for fully integrating interdisciplinary teaching into standard curricula. Interdisciplinary instruction can necessitate cross-discipline collaboration; integration of syllabi, lessons, and coursework across courses; development of new course materials that effectively merge content and align with the learning objectives of multiple courses; and coordinated assessment efforts. Colleges and universities must equip their faculty with the training, compensation, time, and course schedules and programming that best serve extensive cross-discipline and interdepartmental

collaboration. Learning community programming is one approach to providing this support.

The Learning Community Model

The Learning Community model involves a peer group of students completing two or more courses together (Kuh, 2008; Visher et al., 2011; Weiss et al., 2014). A fundamental characteristic of learning communities is extensive faculty collaboration to integrate courses across disciplines in both structure and content. Learning communities, therefore, provide avenues for interdisciplinary pedagogy and coursework (Weiss et al., 2015). Other common characteristics of learning community programming include blocked scheduling of courses, reduced class sizes, special advisement and mentorship opportunities for students, and supplemental training and compensation (e.g., reduced course loads) for faculty. Research supports learning communities as a high-impact teaching practice that is especially effective for first-year college students (Fink & Inkelas, 2015; Kuh, 2016; Rima et al., 2018).

As faculty at an urban community college in the Bronx, New York, we developed and taught an Introduction to Psychology and Introduction to Criminal Justice learning community for first-year criminal justice students. Goals of this learning community included providing supplemental support and guidance in the first year of college, building community among students sharing a major, and facilitating completion of degree requirements. We employed the learning community model as a vehicle for instituting a more comprehensive interdisciplinary teaching approach. This is important for students seeking careers in criminal justice as the field is exceptionally interdisciplinary and often requires expertise in other areas including but not limited to psychology, sociology, political science, communication, computer science, language, and mathematics. An interdisciplinary educational experience in the first year therefore strengthens student readiness for advanced study and careers in criminal justice. We designed *The Kalief Browder Project* as part of our effort to provide an interdisciplinary curriculum for criminal justice students.

The Kalief Browder Interdisciplinary Project

We developed *The Kalief Browder Project* to meaningfully integrate the psychology and criminal justice course content. The project guides students to apply their knowledge from both courses to critically examine a former student's experiences in the criminal justice system. Kalief Browder, a Black man from a low-income neighborhood in New York City, was arrested for allegedly stealing a backpack at the age of 16 and subsequently spent three years awaiting trial in Rikers Island jail (Gonnerman, 2014; 2015a, 2015b, 2015c). For approximately two of these three years, Browder was held in solitary confinement (Gonnerman, 2014). Throughout this time, Browder maintained his innocence and refused to accept a plea bargain. The prosecutor dropped the case three years after Browder's arrest. Following his release, Browder attended Bronx Community College in the Bronx, New York, and excelled in his studies. However, he experienced psychological distress such as depression, anxiety, and paranoia (Gonnerman, 2014; 2015a, 2015b, 2015c)

during his time in Rikers Island and upon release back into his community. Tragically, he died by suicide two years after release from jail. Kalief Browder and his experiences with the criminal justice system were the inspiration for the learning community's interdisciplinary project.

The Kalief Browder Project integrates content across the two learning community courses: Introduction to Psychology and Introduction to Criminal Justice. Throughout the semester, students participated in a series of lessons and complete low- and high-stakes assignments for the project in both courses. Project activities included discussions and readings about Browder and his case (Gonnerman, 2014; 2015a, 2015b, 2015c) and viewings of the Netflix documentary *Time: The Kalief Browder Story* (Carter & Weinstein, 2017) in both courses. Lessons and assignments in both courses prepare students to complete the final paper of *The Kalief Browder Project*. In the Introduction to Criminal Justice course, students (1) learn about the issues and disparities with the criminal legal system through weekly discussions applying Browder's case to course content, (2) complete a writing assignment to identify relevant issues within police, courts, and corrections, and (3) practice developing solutions to reform the criminal justice system. In the Introduction to Psychology course, students worked on a final paper assignment of *The Kalief Browder Project*, which involved scaffolded writing assignments. The semester-long project allowed students to improve their understanding of the content across the Criminal Justice and Psychology disciplines, critically analyze issues and experiences through different lenses, and develop solutions based on their knowledge of newly acquired content (Mueller et. al, 2014).

Importantly, the project has meaning for our students as, like Kalief Browder, many of them are also young persons of color living in the Bronx, an urban, low-income neighborhood. The project creates opportunities for students to discover shared experiences with Kalief and to also view their own lives through a new lens that is informed by the course content. For a full description of the interdisciplinary project see Rima and Rodriguez (2021).

Assessment of the capstone assignment of the project, a final paper in the psychology course, is the focus of the present study. A central aim of the paper assignment was to give students an opportunity to reflect upon Kalief Browder's experiences through an interdisciplinary lens. Students were tasked with using their psychology knowledge to identify and meaningfully reflect upon criminal justice issues relevant to Browder's case and develop their own informed solutions. Lessons in both courses and other project activities prepared students for this capstone assignment. Instruction in the criminal justice course provided students with knowledge and vocabulary needed to understand how the criminal justice system functions, including its shortcomings. Preparation for writing the final paper in psychology included two scaffolded writing assignments: a paper outline and rough draft. The psychology professor provided constructive feedback on each scaffolded assignment. The paper assignment aligned with two of the six learning outcomes the college's Psychology faculty designated for the Introduction to Psychology course:

Learning Outcome 1: Students will demonstrate understanding of psychological theories, principles, and concepts.

Learning Outcome 2: Students will produce well-reasoned written and/or oral arguments applying psychological concepts and principles to demonstrate an understanding of social and cultural phenomena.

Study Purpose & Hypotheses

The objective of this study was to evaluate student learning at the completion of *The Kalief Browder Project*. More specifically, we aimed to evaluate the extent to which the project supported students' learning, with attention to their academic skill development and progress on the psychology course's Learning Outcome 1 and Learning Outcome 2. To achieve this objective, we assessed final paper submissions across two cohorts of learning community students (Spring 2019 and Fall 2019). We also report on students' final paper grades as a second indicator of academic progress on *The Kalief Browder Project*.

Additionally, we aimed to explore whether participation in the learning community improved academic performance in Introduction to Psychology overall. We report on final grades in Introduction to Psychology comparing the learning community students to other first-year criminal justice students in non-learning community sections of the course. We expected that students in the learning community would earn higher final grades in Introduction to Psychology than non-learning community students. See below for the null and alterative hypotheses.

Null Hypothesis: There is no difference among groups and their academic performance.

Alternative Hypothesis: There is a difference among groups and their academic performance.

Study Context and Method

The study took place at Bronx Community College (BCC) of The City University of New York (CUNY), which serves a mostly minority and socioeconomically underprivileged student population. Student enrollment at the college is approximately 10,519 students with 64% attending full time and 36% part time. Slightly more than half (55%) identify as first-generation college students. Seventy-one (71%) report an annual household income of less than $30,000 (BCC's Office of Institutional Research).

BCC's criminal justice program partners with John Jay College of the City University of New York (CUNY) to facilitate community college students' transition to a four-year college to complete their bachelor's degree. The criminal justice program is BCC's second largest academic program with approximately 1,000 students enrolled. Special programming and support benefits criminal justice students as they typically have lower GPAs, decreased program persistence, and lower

graduation rates compared to the general student population (Bronx Community College, Office of Institutional Research).

We created the Introduction to Psychology and Introduction to Criminal Justice learning community to offer needed supplemental support to criminal justice students. Introduction to Psychology is a core requirement of the criminal justice degree. The course has a standard curriculum and a cumulative final examination. Successful completion of the psychology course can be challenging for criminal justice majors. For instance, in Spring and Fall 2018 only about 63% of criminal justice students enrolled in Introduction to Psychology earned passing grades in the course (Bronx Community College, Office of Institutional Research). We aimed to use an interdisciplinary teaching approach to improve criminal justice students' success in the psychology course.

Students in the Spring and Fall 2019 Introduction to Psychology and Introduction to Criminal Justice cohorts submitted the final papers included in this assessment study. As per college policy, learning communities enroll a maximum of 25 students. Additionally, learning community clusters often do not meet maximum enrollments for various reasons, including fewer students meeting the requirements for both courses and scheduling and registration challenges. This applies to the Introduction to Psychology and Introduction to Criminal Justice learning community as it was designed specifically for first-year criminal justice students. Across both semesters, 36 students were enrolled in the learning community. Of these students, 31 (13 and 18 in Spring and Fall 2019, respectively) submitted a final paper for *The Kalief Browder Project*. All 31 submitted papers were included in this study. Importantly, because of this study's small sample size, our findings are more suited to inform future pedagogical innovation and research than to draw definitive conclusions. All study procedures were approved by the college's Institutional Review Board (IRB).

Assessment Measures & Procedures

We selected an assessment rubric that best meets the standards of the interdisciplinary project created for learning community students. As per the recommendations of the Association of American Colleges and Universities (AAC&U), we revised and adapted their Written Communication Value Rubric (2009) for this study. All revisions best aligned the assessment rubric with three primary areas of interest: Academic Skill Development, Learning Outcome 1, and Learning Outcome 2. We made all revisions in consultation with Bronx Community College's Assessment Office.

The finalized rubric included four assessment categories: 1) Content Development, 2) Meaningful Reflection, 3) Context & Purpose, and 4) Control of Syntax and Mechanics. The Content Development category measured the extent to which students' written arguments demonstrated mastery of psychology content, which assessed progress on Learning Outcome 1. We used the Meaningful Reflection category, which measured the students' application of psychological principles to demonstrate an understanding of the social and cultural phenomena to measure

progress on Learning Outcome 2. The remaining two categories measured aspects of academic skill development. The Context and Purpose category assessed students' ability to demonstrate a thorough understanding of the purpose of the assignment and responsiveness to the assignment tasks. The Control and Syntax category measured students' ability to use advanced language and skillfully communicate meaning through writings. The rubric has five ratings from below benchmark (0), meeting the benchmark (1–3), and exceeding the benchmark (4). See Appendix A for the assessment rubric.

We also obtained secondary data from college records to assess students' academic progress. These data included final paper grades and final grades in the psychology course. Additionally, we obtained the final grades of first-year criminal justice students enrolled in all other sections of Introduction to Psychology during the Spring and Fall 2019 semesters.

Data Analyses

To assess students' final papers, we applied norming (also called calibration) procedures. Norming is a process of establishing consistency across faculty raters in their assessment of student work. We followed the Rhode Island Department of Education (2020) and Washington State University's Office of Assessment for Curricular Effectiveness' (2020) guidelines for norming, which include conducting practice rounds, time for raters to independently assess student work, and discussion of scores to reach consensus on scoring.

In the present study, two raters conducted two practice norming rounds to establish scoring consistency before commencing study assessment procedures. For both practice rounds, raters scored paper submissions from a learning community cluster not included in this study. Significant modifications (e.g., writing lessons and scaffolded assignments) to *The Kalief Browder Projec*t beginning in Spring 2019 deemed papers from previous semesters ineligible for inclusion in the present study but appropriate for practice rounds. Following Wang's (2009) recommendations to maintain anonymity in all assessment procedures, we randomly selected paper submissions for inclusion in practice rounds and removed student identifiers. We labeled papers by number for organizational purposes. These steps ensured anonymous assessment of the sample papers.

For both practice rounds, raters scored papers selected at random from the Fall 2018 cohort. In the first practice round, raters independently assessed three papers in the categories of Content Development, Meaningful Reflection, Context & Purpose, and Control & Syntax. The raters agreed on 41% of the assessment ratings across all four assessment categories. After discussing reasons for discrepancies and reaching agreement, raters conducted the second round of assessment with three additional papers. For Round 2, raters reached 75% agreement across all four assessment categories establishing acceptable inter-rater agreement (Stemler, 2004).

Following the second practice round, raters commenced study assessment procedures. Like the two practice rounds, we applied strategies Wang (2009) recommended to ensure anonymity in assessment procedures. We removed all student identifiers and assigned each paper a random number. Raters independently assessed the papers in groups of three to four. Raters met to compare scores, discuss discrepancies, and reach agreement when needed after independently scoring each group (Rhode Island Department of Education, 2020; Washington State University's Office of Assessment for Curricular Effectiveness, 2020).

To compare final grade data of students enrolled in the learning community to those of criminal justice students in other sections of Introduction to Psychology during the Spring and Fall 2019 semesters, we calculated percentages and conducted a one-way Analysis of Variance (ANOVA) test.

Results

The results are organized in three overall sections: Academic Skill Development (Context & Purpose and Control & Syntax rubric categories), Learning Outcome 1 (Content Development rubric category), and Learning Outcome 2 (Meaningful Reflection rubric category). For all assessment categories, results indicate the percentage of papers exceeding (rubric rating of 4), meeting (rubric rating of 1–3) or falling below (rubric rating of 0) benchmark.

Academic Skill Development

Students' academic skill development was assessed using the Context & Purpose and Control & Syntax categories. For Context & Purpose, 100% ($n = 31$) of the students met the benchmark. More specifically, the majority (80%; $n = 25$) of students met, 19% ($n = 6$) exceeded, and 0% fell below the benchmark. Most students, therefore, demonstrated a thorough understanding of the purpose of the assignment and were responsive to the assignment tasks. Assessment ratings for the Control & Syntax category showed that 100% ($n = 31$) met the benchmark. The majority of students demonstrated their ability to use advanced language and skillfully communicate meaning through writing.

Learning Outcome 1

Learning Outcome 1 required students to demonstrate understanding of psychological theories, principles, and concepts. Specifically, students should demonstrate learning in at least one of the following areas: human development, social interaction, psychopathology, cognitive processes, and biological bases of behavior. We assessed Learning Outcome 1 using the Content Development category. All students (100%; $n = 31$) met the benchmark in the Content Development category demonstrating their understanding of foundational course concepts in the final paper.

Learning Outcome 2

Learning Outcome 2 aimed for students to produce well-reasoned written and/or oral arguments applying psychological concepts and principles to demonstrate an understanding of social and cultural phenomena. The Meaningful Reflection category assessed students' progress on this learning outcome. Most (74%; $n =$ 23) students met the benchmark for Meaningful Reflection. A few (26%; $n = 8$) did not meet the benchmark. Most students applied concepts and principles to demonstrate understanding of social and cultural phenomena.

Academic Performance

We also explored the learning community students' overall performance on *The Kalief Browder Project* as well as in the Introduction to Psychology course. Student work on the final paper assignment is an indicator of overall project performance as it is the capstone assignment and requires application of knowledge and skills gained from all project activities. We collected final paper grades as a measure of project performance. Of the 31 final papers submitted for the *Kalief Browder Project* most (58%; $n = 18$) were assigned above average (A or B) grades, 32% ($n = 10$) were assigned an average grade (C), and 10% ($n = 3$) were assigned a below average grade (D or F). Ninety percent ($n = 28$) of the students who completed the final paper assignment demonstrated average or above average performance on the final paper assignment of the project.

To evaluate the students' academic performance in Introduction to Psychology, we compared their final grades to those of other criminal justice majors in non-learning community sections of Introduction to Psychology in Spring and Fall 2019. The college's Office of Institutional Research provided all final grade data. For this comparison, we included final grade data for students enrolled in the learning community $n = 43$), excluding seven students that withdrew from the learning community (officially or unofficially). Comparing final grades in Introduction to Psychology, the learning community first-year students outperformed other criminal justice majors. For example, 86% ($n = 31$) of the learning community students compared to 53% ($n = 172$) earned above average (A or B) grades. About 8% ($n = 3$) compared to 29% ($n = 95$) earned average (C) grades and 5% ($n = 2$) compared to 17% ($n = 57$) earned below average (D or F) grades. Students in the learning community were more likely than their peers to earn above average grades in Introduction to Psychology. A one-way ANOVA test indicated a statistically significant difference between group means, $F(1, 178) = 5.86$, $p = .017$. The null hypothesis was rejected.

Discussion

The primary objective of this study was to conduct a summative assessment of a student project, *The Kalief Browder Project*. The project was part of an interdisciplinary learning community curriculum for first-year criminal justice students. The project included a series of lessons and assignments students completed throughout the semester and culminated in a capstone paper

assignment. This study involved assessment of final paper submissions across two cohorts of students in an Introduction to Psychology and Introduction to Criminal Justice learning community. We also evaluated students' academic progress in the psychology course, reporting on their final paper grades as well as final grades in the psychology course. Study results supported the interdisciplinary project as an effective strategy for facilitating students' academic skill development, mastery of course learning outcomes, and academic progress in the psychology course. Findings demonstrate that the learning community curriculum supported students' academic skill development and success in the psychology course.

We adopted and revised the Association of American Colleges and Universities' (AAC&U) Written Communication Value Rubric (2010) rubric to conduct assessment procedures. The rubric guided assessment of student work across in the areas of Context & Purpose, Control & Syntax, Content Development, and Meaningful Reflection. These rubric categories assessed student achievement in three main areas: 1) academic skill development (Context & Purpose and Control & Syntax), 2) Learning Outcome 1 (demonstrate understanding of psychological theories, principles, and concepts; Content Development*)*, and 3) Learning Outcome 2 (produce well-reasoned written and/or oral arguments applying psychological concepts and principles to demonstrate an understanding of social and cultural phenomena; Meaningful Reflection). Overall, students successfully demonstrated their academic skill development and mastery of both learning outcomes through their work on the project's capstone assignment.

We found that students demonstrated their academic skill set through their work on the paper. Students tended to understand the purpose of the interdisciplinary project, completed the required assignment tasks correctly, and used advanced language to communicate their ideas in writing. The learning community structure, scaffolded nature, and semester-long duration of the project likely fostered students' ability to successfully demonstrate these academic skills in the capstone assignment of their project. The learning community model gave students access to increased support, guidance, and feedback on project progress than is typically available in stand-alone courses. Completing the project in two courses also provided more opportunities for clarification and reinforcement regarding project requirements. Scaffolding assignments throughout the semester allowed for an effective feedback and revision process.

Findings also suggest that the interdisciplinary project supported students' mastery of course learning outcomes. Most students demonstrated understanding of foundational psychology theories, concepts, and principles (Learning Outcome 1). Even more, students successfully applied psychological concepts to real life, social, and cultural situations through their writing (Learning Outcome 2). Many students meaningfully analyzed how psychological concepts relate to Kalief Browder's experiences with the criminal justice system and extended these connections to their social and cultural lives. Thus, the learning community students were equipped to meaningfully apply their learning, view content through different perceptual lenses, and handle the complexity of the interdisciplinary project, which

are all skills fostered through interdisciplinary pedagogy (Jones, 2009; Kleinberg, 2008; Latucca, 2001; Spelt et al., 2009).

Finally, our analysis of student grades on the project's capstone assignment and final grades in the psychology course demonstrated their academic progress. Most students earned average or above average grades on the capstone paper assignment suggesting their successful completion of *The Kalief Browder Project*. These results supported the proposed alternative hypothesis. Learning community students were more likely than criminal justice students enrolled in other sections of Introduction to Psychology in Spring and Fall 2019 to earn above average final grades in the course. Combined with our assessment results, evaluation of student grade data suggests that interdisciplinary teaching and learning supported students' academic success in the psychology course. These findings are important because passing the psychology course is required for the criminal justice major.

Interdisciplinary teaching in both learning community courses supported students' success in the psychology course, including their progress on learning outcomes, satisfactory performance on the interdisciplinary project's capstone assignment, and successful completion of the psychology course. Effectively expressing understanding of course concepts and meaningfully applying gained knowledge requires skills fostered through interdisciplinary pedagogy, including communication and analytical skills and the ability to evaluate course content from diverse perspectives (Jones, 2009; Kleinberg, 2008; Latucca, 2001). We offered the Introduction to Psychology and Introduction to Criminal Justice learning community at Bronx Community College (BCC) in part because the psychology course is a requirement for the criminal justice degree and also challenging to master. Importantly, students in the learning community demonstrated significant progress on the psychology course learning outcomes. Using students' interest in criminal justice and integrating criminal justice and psychology likely made psychology more fun and engaging for students, which supported their learning and success in the course (Costanzo & Costanzo, 2013).

Recommendations

The findings of this study reiterate the value of interdisciplinary teaching in higher education. We offer recommendations for administrators and faculty to successfully implement interdisciplinary learning opportunities.

Recommendations for Administrators

Multifaceted institutional support is key. Coordinated course scheduling, registration, and advisement efforts can facilitate interdisciplinary teaching, especially for those adopting team teaching across disciplines or the learning community model (Weiss et al., 2015). Because assessment is fundamental to the interdisciplinary teaching process, institutional support should also include funding, training, and mentorship for assessment.

Adequate resources and training are needed to support interdisciplinary innovation (Larson et al., 2011). Interdisciplinary teaching requires additional effort to foster collaborations across disciplines and departments, learn and test strategies for merging disciplines and courses, and create new course materials and assessment vehicles. For example, monetary compensation, course load reductions, mentorship, and professional development programs are some strategies for advancing and institutionalizing interdisciplinary pedagogy. Administrators can work to develop a culture of collaboration among faculty through strategies like the above to support continued cross-discipline and interdisciplinary teaching.

Recommendations for Faculty

We also recommend offering support for teaching collaborations. Interdisciplinary teaching requires partnerships with faculty outside of our own disciplines and departments. Forming these relationships can be challenging in the traditional college environment, which typically houses faculty by discipline, provides few opportunities for cross-departmental networking, and can create competition among academic departments. Programs designed to bring diverse faculty together for networking and building teaching collaborations can facilitate interdisciplinary teaching. The faculty members teaching in this learning community both received a reduced course load to coordinate and integrate their courses as well as the support of a learning community faculty coordinator. Faculty also met monthly to align their content and discuss student progress. As Hutchings (2019) recommends, faculty can join assessment councils at their institutions and attend assessment conferences to connect with other faculty. Our psychology faculty member was also on the college's assessment committee.

Furthermore, merging interdisciplinary teaching with other high-impact practices will best promote student learning. For example, making meaning or reflective teaching allows students the opportunity to personally connect with the learning (Desjarlais & Smith, 2011). Also, analysis of real-life events can strengthen interdisciplinary learning (Mueller et al., 2014; Spelt et al., 2004). Students can better understand the value of adopting an interdisciplinary approach when examining how content connects to their own lives and world around them, which may foster greater investment in learning. We believe *The Kalief Browder Project* was an effective interdisciplinary pedagogical tool in part because it involved learning about a fellow student. The learning community students could likely identify with Browder as they occupied the same spaces and shared common experiences and circumstances, which we believe motivated their learning and encouraged deeper reflection and analysis.

Limitations & Future Directions

This study provides a useful template for assessment of interdisciplinary projects and supports the value of interdisciplinary pedagogy for student academic success; however, there are some methodological limitations. First, due to the nature of the study, the sample size is relatively small. We focused on student work collected from learning community cohorts, which enroll a limited number of students.

Second, results may not be generalizable to other student populations as the study took place at one urban community college. Other institutions should make modifications to our model for their student populations. Third, there is potential for self-selection bias as students opted to participate in the learning community. The learning community model may be more attractive to certain types of students.

Based on our experiences conducting the present assessment study, we offer suggestions regarding assessment of interdisciplinary pedagogy and future research. Interdisciplinary work should include both formative and summative assessment (Dixson & Worrell, 2016). This paper provides a model of summative assessment (i.e., evaluating student learning at the completion of instruction) of interdisciplinary learning. Including formative assessment (i.e., assessment of student learning throughout the instructional process) would provide a richer understanding of student learning and allow for needed modification during the learning process (Mueller et al., 2014). Second, assessment should be ongoing, flexible, and open to regular revision to assessment procedures, curricula, and coursework (Hutchings, 2019). This is especially true for interdisciplinary teaching as it requires coordination across disciplines and courses. Assessment must accommodate each individual discipline as well as new objectives that arise from merging disciplines. The present study focused only on assessment of learning in the psychology course. Future studies should explore best strategies for assessing overall objectives of interdisciplinary teaching as well as individual course learning outcomes.

Finally, we recommend making assessment procedures more transparent to students. Notably, the learning community students did not have access to the assessment rubric for the capstone assignment of *The Kalief Browder* project. Sharing the assessment rubric with students prior to assignment completion may have better guided students' fulfillment of assignment expectations (Mueller et al., 2014). Adding this step into the assessment process may help more students meet or exceed assessment benchmarks.

Conflicts of Interest

The authors declare that there are no conflicts of interest regarding the publication of this article.

References

Association of American Colleges and Universities (AAC&U). (2009). *Inquiry and analysis VALUE rubric.* https://www.aacu.org/value/rubrics/inquiry-analysis

Boud, D., & Soler, R. (2016). Sustainable assessment revisited. *Assessment & Evaluation in Higher Education*, *41*(3), 400–413. https://doi.org/10.1080/02602938.2015.1018133

Carter, S., & Weinstein, H. (Executive producers). (2017). *Time: The Kalief Browder Story* [TV series]. The Cinemart; The Weinstein Company.

Costanzo, M. L., & Costanzo, M.A. (2013). Teaching clinical (and nonclinical) psychology through applications to the legal system: Violence risk assessment and the insanity defense. *Teaching of Psychology*, *40*(3), 252–256. https://doi.org/10.1177/0098628313487452

Desjarlais, M., & Smith, P. (2011). A comparative analysis of reflection and self-assessment. *International Journal of Process Education*, *3*(1), 3–18. https://www.ijpe.online/2011/reflection.pdf

Dixson, D. D., & Worrell, F. C. (2016). Formative and summative assessment in the classroom. *Theory Into Practice*, *55*(2), 153–159. http://doi.org/10.1080/00405841.2016.1148989

Fink, J. E., & Inkelas, K. K. (2015). A history of learning communities within American higher education. *New Directions for Student Success*, *149*, 5–15. https://doi.org/10.1002/ss.20113

Gonnerman, J. (2014, October 6). Before the law. *The New Yorker*, 26–32. https://www.newyorker.com/magazine/2014/10/06/before-the-law

Gonnerman, J. (2015a, April 15). Kalief Browder and a change at Rikers. *The New Yorker*. https://www.newyorker.com/news/news-desk/kalief-browder-and-a-change-at-rikers

Gonnerman, J. (2015b, April 23). Exclusive video: violence inside Rikers. *The New Yorker*. https://www.newyorker.com/news/news-desk/exclusive-video-violence-inside-rikers

Gonnerman, J. (2015c, June 7). Kalief Browder, 1993–2015. *The New Yorker*. https://www.newyorker.com/news/news-desk/kalief-browder-1993-2015

Guthrie, K. L., & McCracken, H. (2010). Reflective pedagogy: Making meaning in experiential based online courses. *The Journal of Educators Online*, *7*(2), 121. https://files.eric.ed.gov/fulltext/EJ904075.pdf

Hutchings, P. (2019, January). *What new faculty need to know about assessment*. National Institute for Learning Outcomes Assessment. https://www.learningoutcomesassessment.org/wp-content/uploads/2019/08/Assessment-Brief-Faculty.pdf

Jankowski, N. A., Timmer, J. D., Kinzie, J., & Kuh, G. D. (2018, January). *Assessment that matters: Trending toward practices that document authentic student learning*. University of Illinois and Indiana University, National Institute for Learning Outcomes Assessment (NILOA). https://eric.ed.gov/?id=ED590514

Jones, C. (2009). Interdisciplinary approach: Advantages, disadvantages, and the

future benefits of interdisciplinary studies. *ESSAI*, *7*, 1–6. http://dc.cod.edu/essai/vol7/iss1/26

Knapp, S., & Merges, R. (2017). An evaluation of three interdisciplinary social science events outside of the college classroom. *College Teaching*, *65*, 137–141. http://dx.doi.org/10.1080/87567555.2016.1244655

Kuh, G. D. (2008). *High-impact educational practices: What are they, who has access to them, and why they matter.* Association of American Colleges and Universities. https://provost.tufts.edu/celt/files/High-Impact-Ed-Practices1.pdf

Kuh, G. D. (2016). Some thoughts about doing the right thing in uncertain times. *Journal of College and Character*, *17*, 213–222. https://doi.org/10.1080/2194587X.2016.1230761

Kesianye, S. K. (2015). The three perspectives of integrating assessment and instruction in the learning of school mathematics. *Journal of Education and Practice*, *6*(19), 212–214. https://files.eric.ed.gov/fulltext/EJ1079550.pdf

Kleinberg, E. (2008). *Interdisciplinary studies at a crossroads*. Association of American Colleges and Universities. https://www.aacu.org/publications-research/periodicals/interdisciplinary-studies-crossroads

Larson, E. L., Landers, T. F., & Beggs, M. D. (2011). Building interdisciplinary research models: A Didactic course to prepare interdisciplinary scholars and faculty. *Clinical Translational Science Journal*, *4*(1), 38–41. DOI: 10.1111/j.1752-8062.2010.00258.x

Latucca, L. R. (2001). *Creating interdisciplinarity: Interdisciplinary research and teaching among college and university faculty*. Vanderbilt University Press. https://www.learningoutcomesassessment.org/wp-content/uploads/2019/08/Assessment-Brief-Faculty.pdf

Mueller, A., Juris, S. J., Willermet, C., Drake, E., Upadhaya, S., & Chhetri, P. (2014). Assessing interdisciplinary learning and student activism in a water issue course. *Journal of the Scholarship of Teaching and Learning*, *14*(2), 111–132.

Rhode Island Department of Education. Calibration protocol for scoring student work: A part of the assessment toolkit. https://www.ride.ri.gov/Portals/0/Uploads/Documents/Teachers-and-Administrators-Excellent-Educators/Educator-Evaluation/Online-Modules/Calibration_Protocol_for_Scoring_Student_Work.pdf

Rima, B., Rodriguez, C. C., & DePaola, T. (2018). Supplementing the "college

experience" with first year program-based learning communities. *The Community College Journal of Research and Practice*, *43*, 840–853. https://doi.org/10.1080/10668926.2018.1542637

Rima, B., & Rodriguez, C. C. (2021). Bringing meaning to learning: An interdisciplinary project for first-year community college students. *Teaching of Psychology*, *48*(3), 204–208. https://doi.org/10.1177/0098628320979878

Spelt, E. J. H., Biemans, H. J. A., Tobi, H., Luning, P. A., & Mulder, M. (2009). Teaching and learning in interdisciplinary higher education: A systematic review. *Educational Psychology Review*, *21*, 365–378. https://doi.org/10.1007/s10648-009-9113-z

Stemler, S. E. (2004). A Comparison of consensus, consistency, and measurement Approaches to estimating interrater reliability. *Practical Assessment, Research, and Evaluation*, *9*(4), 1–11. https://doi.org/10.7275/96jp-xz07

Visher, M. G., Teres, J., & Richman, P. (2011, July). *Breaking new ground: An impact study of career-focused learning communities at Kingsborough Community College*. National Center for Postsecondary Research. https://files.eric.ed.gov/fulltext/ED522631.pdf

Wang, P. (2009). The inter-rater reliability in scoring composition. *CCSE*, *2*(3), 39–43. https://files.eric.ed.gov/fulltext/EJ1083076.pdf

Washington State University's Office for Curricular Effectiveness. (2020). Quick guide to norming on student work for program-level assessment. https://ace.wsu.edu/documents/2015/03/rubrics-norming.pdf/

Wenninger, H. (2018). Student assessment of venture creation courses in entrepreneurship higher education—An interdisciplinary literature review and practical case analysis. *Entrepreneurship Education and Pedagogy*, *2*(1), 58–81. https://doi.org/10.1177/2515127418816277

Weiss, M. J., Mayer, A., Cullinan, D., Ratledge, A., Sommo, C., & Diamond, J. (2014). *A random assignment evaluation of learning communities at Kingsborough Community College: Seven years later*. MDRC. https://www.mdrc.org/sites/default/files/A_Random_Assignment_Evaluation_of_Learning_Communities_KCC.pdf

Weiss, M. J., Visher, M. G., Weissman, E., & Wathington, H. (2015). The impact of learning communities for students in developmental education: A synthesis of findings from randomized trials at six community colleges. *Educational Evaluation and Policy Analysis*, *37*, 520–541. https://doi.org/10.3102%2F0162373714563307

Appendix A

Revised Written Communication Value Rubric from the Association of American
Colleges & Universities (AAC&U)

"Definition: Written communication is the development and expression of ideas in
writing. Written communication involves learning to work in many genres and
styles. It can involve working with many different writing technologies, and mixing
texts, data and images. Written communication abilities develop through iterative
experiences across the curriculum.

Evaluators are encouraged to assign a zero to any work sample or collection of
work that does not meet benchmark (cell one) level performance."

	Capstone 4	Milestones 3	2	Benchmark 1	Below Benchmark 0
Context of and Purpose of Writing Includes consideration of audience, purpose and the circumstances surrounding the writing task(s).	Demonstrates thorough understanding of purpose that is responsive to the assigned tasks and focuses on all elements of the work.	Demonstrates adequate consideration of purpose that is responsive to the assigned tasks and focuses on all elements of the work.	Demonstrates awareness of purpose and assigned tasks.	Demonstrates minimal attention to purpose and assigned tasks.	Does not meet the benchmark for context and purpose of writing.
Content Development	Uses appropriate, relevant, and compelling content to illustrate mastery of the subject, conveying the writer's understanding, and shaping the whole work.	Uses appropriate, relevant, and compelling content to explore ideas within the context of the discipline and shape the whole work.	Uses appropriate and relevant content to develop and explore ideas through most of the work.	Uses appropriate and relevant content to develop simple ideas in some parts of the work.	Does not meet the benchmark for content development.
Meaningful Reflection	Incorporates detailed attention to applying psychology principles to	Uses consistent application of psychological processes to demonstrate	Follows expectations to apply psychological processes to demonstrate	Attempts to apply psychological processes to demonstrate understandin	Does not meet the benchmark for meaningful reflection.

	Capstone 4	Milestones 3	2	Benchmark 1	Below Benchmark 0
	demonstrate understanding of social and cultural phenomena.	understanding of social and cultural phenomena.	understanding of social and cultural phenomena.	g of social and cultural phenomena.	
Control of Syntax and Mechanics	Uses advanced language that skillfully communicates meaning to readers with clarity and fluency and is virtually error-free.	Uses straightforward language that generally conveys meaning to readers. The writing in the portfolio has few errors.	Uses language that generally conveys meaning to readers with clarity, although writing might include some errors.	Uses language that sometimes impedes meaning because of errors in usage.	Does not meet the benchmark of writing mechanics.