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Original Research

# Cultivating Innovation Capacity of Undergraduates in a Technology Commercialization Academy in Midwest America

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## Abstract

The Technology Commercialization Academy (TCA) was launched to promote the identification, assessment, and exploitation of economically viable innovations by undergraduates and retain those graduates in the southwest Indiana region. Further, as part of the I-69 Innovation Corridor initiative, the TCA was part of increasing the regional Innovation Index score 20% by 2025. Through the seven years of implementation, the program has determined that there is a crucial tool set that is necessary for new graduates entering industry, including instilling that innovation is a balance; innovation is agile; innovation must fail, pivot, and focus quickly; and lastly the program must realize its capabilities, be diverse in thought, and recognize that the personnel are key. By instilling these practices in the participants, using available programmatic information and surveys, 100% of job seekers post-graduation were employed within six months, 9% began their own startup from the program, and 64% of these high impact graduates stayed in southwest Indiana. Overall, the TCA program structure has shifted to demand side iterative processes that create long-tail value for the region and made the participants attractive hires who are keenly aware of practices to move from opportunity to execution.

**Keywords:** entrepreneurship, frameworks, sprint, feasibility

## Introduction

When a university is part of a regional innovation ecosystem, it generally interacts in one or both of the following capacities. First, the university offers specialized program outside of standard university format aimed at bridging the entrepreneurial gap and/or offering entrepreneurial education (either through undergraduate, graduate entrepreneurial programs, or mentorship). Second, the university serves as a conduit for these activities by providing access to technology, either through technology transfer, research, equipment, and/or infrastructure, in addition to subject matter expertise via faculty, staff, and/or research personnel (Bezerra et al., 2017). The development and exploitation of these capacities, when coupled with community collaboration, allow regional growth (Johnson Jr, 2014).

Specialized programs, accelerators, or incubators are solely aimed at the development of entrepreneurial ideas and progression of the business. Documentation of the creation of these programs is readily available in terms of facilities, layout, infrastructure, and workforce (Jurkowski & Kerr, 2010; Thompson, 2012). The standard accelerator and incubator aid potential companies in moving their idea forward via access to investors, technology experts, and/or mentors in an effort to develop a robust pipeline of talent and shovel-ready ventures (Biemiller, 2018; Custer, 2015; Johnson Jr, 2014; Klugh & Williams, 2017; Ochs et al., 2001; Tekula & Jhamb, 2015; Woods et al., 2016). Different methodologies are used to enhance and improve the business proposition of the participants including, but not limited to: mentorship, networking/investors, "the student becomes the teacher," focus on leadership, expedited MBA, partnership with local industry, or workshops by experts (Bogomolny, 2005; Garcia & Ustymchuk, 2020; Gilbert, 2010).

Meanwhile, the standard undergraduate entrepreneurial experience encompasses coursework aimed at teaching supply-side ideation through experience in the development of a business plan or business model canvas, and culminating in articulation via refined pitch. Developed from the perspective of pedagogy (Collet & Wyatt, 2005; Hanna, 2013; Heinrich et al., 2018), once that entrepreneurial student has reached the culmination of their educational experience, they have a set of tools that are useful for themselves, prospective employers, or for advancing their prospective innovations. Very few undergraduates pursue the idea(s) developed as part of the curriculum or, if pursued, the ideas are found so underdeveloped that they are unable to enter the specialized programs (Bezerra et al., 2017).

This creates a gap in the undergraduate innovation puzzle. While it can be easy to find the infrastructure, personnel, and technology to grow an idea, there has traditionally been a value-proposition deficit for large portions of the student population to justify dedicated time to these efforts. All too often, current undergraduate programs are designed for the individual that already has an entrepreneurial mindset and exclude a large population of aspiring young entrepreneurs

who may not be matriculating through a business school curriculum. Further, the puzzle, as currently configured, assumes a robust pipeline of mature talent and ideas before being provided access to a launchpad to success via incubators and accelerators with access to capital, mentorship, and space. Bezerra et al. reviews the innovation space for the young entrepreneur and defines four main characteristics that need improvement for their success (2017), including: practical activities as a way to develop new business ideas; centrality of the incubation process; lack of credibility and resources; and difficulty in maintain a long-term relationship with the university.

This paper discusses the Technology Commercialization Academy (TCA) program, which was designed to take approximately 16 students from all disciplines represented on the University of Southern Indiana (USI) campus and provide them the tools for discovering and capitalizing on opportunities. Participants did this via inspirational subject matter made available through the NSWC Crane Technology Transfer (T2) office, local entities, or newly developed personal ventures via a paid 12-week student fellowship culminating in pitch events. The paper continues by discussing the Southwest Indiana regional background, methodologies, results and findings, the discussion of findings, and a conclusion.

## Southwest Indiana Regional Background

Southwest Indiana has unique geographic positioning that allows for an unmatched distribution network: a central location provides access to 75% of the nation's population within a one day drive; twenty-two linehaul railroads provide intermodal connectivity to the east and west coasts; and, easy access to international waters via the seventh largest inland port in the United States (Economic Development Coalition of Southwest Indiana, 2019). With the geographic advantages, the southwest region has been a mainstay for manufacturing processes but has suffered at attracting and retaining high impact companies. To understand a region's impact, the Innovation Index can assess a region's innovation capacity and output (Figure 1). The southwest region of Indiana had a decrease in high tech jobs from 1997-2009 in comparison to the rest of Indiana and the United States, while having a larger ratio of job growth to population growth. The number of patents produced by this region is less than half the average of the United States during that time period (Innovation 2.0, 2019).

Evansville also ranks 179th while being the 232nd most populous city in the country. Analyzing the data further (Figure 2), Evansville is successful in areas that are defined by the presence of strong legacy businesses and education (13th and 153rd respectively), but fares poorly in the creation of new entities, knowledge creation and technology diffusion, and access to venture capital (301st, 354th, and 245th respectively) (Innovation 2.0, 2019).

***Figure 1.*** Innovation Index comparison ratios 1997- 2008/09. Custom region defined as southwest Indiana.

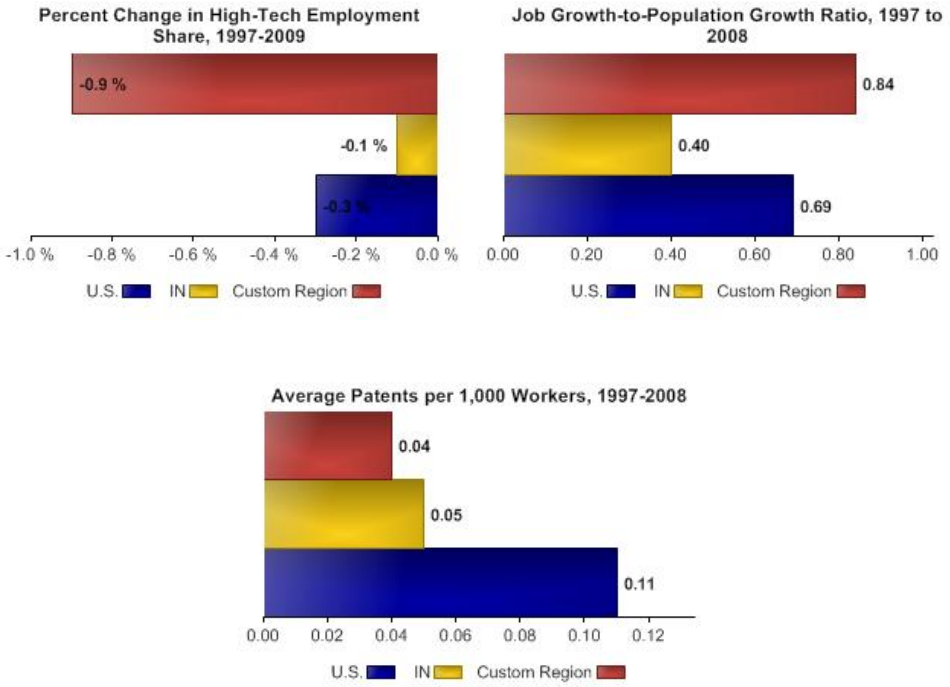



***Figure 2.*** Innovation Index Ranking – Midwest Towns/Cities and U.S.-wide Innovation Centers

| Metro Area Index Value | Evansville, IN (Metro) | Fort Wayne, IN (Metro) | South Bend, IN (Metro) | Dayton, OH (Metro) | Peoria, IL (Metro) | Lansing, MI (Metro) | Columbia, MO (Metro) | Chicago, IL (Metro) | Boston, MA (Metro) | San Francisco, CA (Metro) |
|---|---|---|---|---|---|---|---|---|---|---|
| Innovation Index | 179 | 224 | 274 | 189 | 111 | 173 | 80 | 62 | 13 | 1 |
| - Human Capital and Knowledge Creation Index | 284 | 171 | 227 | 82 | 142 | 64 | 51 | 61 | 11 | 7 |
| Educational Attainment | 245 | 220 | 277 | 140 | 143 | 8 | 33 | 150 | 67 | 64 |
| Knowledge Creation and Technology Diffusion | 354 | 117 | 191 | 67 | 189 | 218 | 227 | 20 | 9 | 1 |
| STEM Education and Occupations | 153 | 129 | 119 | 41 | 93 | 82 | 68 | 67 | 11 | 20 |
| - Business Dynamics Index | 248 | 210 | 342 | 199 | 125 | 137 | 107 | 65 | 8 | 4 |
| Establishment Formation | 301 | 306 | 335 | 225 | 282 | 266 | 177 | 61 | 129 | 10 |
| Establishment Dynamics | 137 | 104 | 337 | 240 | 64 | 264 | 90 | 190 | 54 | 28 |
| Venture Capital Dollar Measures | 227 | 206 | 238 | 182 | 126 | 113 | 138 | 61 | 4 | 2 |
| Venture Capital Count Measures | 245 | 232 | 237 | 237 | 141 | 66 | 148 | 57 | 6 | 2 |
| - Business Profile Index | 13 | 173 | 149 | 156 | 282 | 219 | 298 | 77 | 40 | 49 |
| Foreign Direct Investment Attractiveness | 50 | 127 | 226 | 90 | 211 | 86 | 236 | 139 | 93 | 143 |
| Connectivity | 64 | 218 | 99 | 266 | 229 | 155 | 329 | 91 | 38 | 37 |
| Dynamic Industry Profile | 112 | 174 | 284 | 173 | 261 | 311 | 167 | 14 | 18 | 17 |
| Proprietorship | 66 | 187 | 138 | 323 | 367 | 353 | 366 | 193 | 172 | 138 |
| - Employment & Productivity Index | 202 | 250 | 128 | 302 | 76 | 305 | 107 | 143 | 153 | 28 |
| Industry Performance | 182 | 114 | 177 | 304 | 297 | 322 | 213 | 247 | 309 | 142 |
| Gross Domestic Product | 101 | 252 | 160 | 202 | 17 | 253 | 232 | 85 | 62 | 38 |
| Patents | 103 | 169 | 98 | 138 | 64 | 129 | 49 | 58 | 54 | 38 |
| - Economic Well Being Index | 187 | 274 | 317 | 231 | 84 | 234 | 66 | 281 | 92 | 95 |
| Compensation | 142 | 323 | 251 | 151 | 44 | 230 | 58 | 310 | 119 | 90 |

Due to these data points Growth Alliance for Greater Evansville's (GAGE) mission is to drive and support economic development activities. As part of these activities, partners were sought to support the essential technology transfer component required to incite high technology startups. Partnership Intermediary Agreements were formed between the Naval Surface Warfare Center, Crane Division (NSWC Crane), USI, and GAGE. NSWC Crane (located in southern Indiana) provides technical engineering solutions and total lifecycle leadership for many of the systems

that protect and enable the warfighter, and this intellectual property (IP) portfolio is available for development of commercial technology. With the completion of Interstate 69 from Evansville to Crane, Indiana, a prioritization of activity was strategically conceived resulting in the formation of the I-69 Innovation Corridor (GAGE, 2019). The purpose of the corridor initiative was to increase the regional Innovation Index score 20% by 2025 through the development of Brainpower, Innovation and Entrepreneurship Networks, Quality, Connected Places, Branding Experiences, and Civic Collaboration. Brainpower starts with a sound education and imagination. Entrepreneurial educators can generate 21st century brainpower with skills to support globally competitive businesses. Innovation and Entrepreneurship Networks create business development networks (clusters, entrepreneurial support, venture capital, mentors) capable of converting brainpower into wealth through innovation and entrepreneurship endeavors. Quality and Connected Places entices mobile people and companies that are innovative to locate in places with high quality of life and remain connected to the rest of the world. Branding Experiences define the region's story by depicting to young professionals that the region has a future that is vibrant and exciting. Lastly, Civic Collaboration produces leaders that are skilled in the art and discipline of collaboration.

USI acted as the educational partner and secured funding to support activities associated with Brainpower, Quality, Connected Places, and Innovation and Entrepreneurship Networks. Through the partnership with GAGE, this resulted in the development of several cooperative undertakings. Tech on Tap is a community-led program that fosters innovation by promoting collision, connection, and collaboration through hosted events. Tour of Opportunity incorporates a daylong event that allows middle school students the opportunity to view local career prospects first-hand, encouraging early talent retention and pathfinding. The Technology Commercialization Academy planted the seed of innovation discovery in USI students who might not otherwise have access to the region's entrepreneurial resources.

## Methodology

### General Setup of Program

The length of the TCA program has varied but has ultimately settled at 12 weeks long, with students working 24-25 hours per week, which equates to 7.5 full 40-hour work weeks. Students are initially taught entrepreneurial and innovation practices towards ideation and business feasibility. Ideas are then assessed using different frameworks, as discussed in later sections, throughout the commercialization process. If the product faltered, the students pivoted to assess other ideas and began the process of commercial risk mitigation again with the new idea. At the end of the TCA, pitch events are scheduled. The first is a public pitch event in which participants present the opportunities discovered, the market research they have performed to validate the commercial viability of those opportunities, and present a proof of concept. The result of this

pitch is to curate a collision between student, mentor, or local entity resulting in the formation of new entities and collaboration with individuals or entities with access to capital. A second pitch is conducted with NSWC Crane personnel, to showcase to the inventors of the military technology how their concepts sparked innovation and inspiration for the potential commercial applications.

### Decision Making for Programmatic Changes

Programs were assessed yearly regarding the cumulative content production from the previous year using qualitative analyses of overall impact to the undergraduate student experience, utility of NSWC Crane intellectual property, and student professional readiness. This assessment was conducted via observations collected during phases of the program as participants completed activities and advanced potential innovations. Further, the program initially focused on quantity of supply-side innovation from NSWC IP and development of the commercial case via business model canvas. Later iterations of the programming focused on enhanced quality via the introduction of new tools to emphasize product-market fit and demand-side customer-focused feedback. Therefore, content and tools adjusted from year-to-year to fit the focus of the program.

### Student Selection

The application process for participant selection in the TCA program is open to all students across the USI campus. Students interested in participating in the next summer's cohort must fill out an application (Supplemental Figure 1) with several questions pertaining to their interests and goals. A student does not need to have entrepreneurial startup goals to be selected, but an interest in expanding their comprehension is crucial to success, as there are stages that require prototyping, business development, critical thinking, or problem-solving. During the assessment of applications, candidates were evaluated via the following criteria: professionalism and likelihood of making a positive contribution to the program as currently defined; ability to find gainful employment immediately following the completion of the program/their degree; and assessment of ability to provide unique insights during the creative process. A Likert Scale (0 low – 5 high) was used by the instructors and coordinators of the program to rank applicants. An average of the rankings was taken, and the top 16 students were asked to join the program, while the next 4 students were selected as alternates.

### Instructors

The TCA program used USI faculty and staff from multiple disciplines to guide students through the ideation, feasibility, and commercialization processes. Instructors were selected based on professional and personal experiences with innovative technologies, small business formation, IP knowledge, and a passion for entrepreneurship.

## Mentors

The TCA program used mentors from inside and outside of the academic setting for their expertise in a given area. Depending on the portion of the program, a mentor was established and used to aid the students in that specific phase of the program. Mentor relationships were leveraged to gain resources with field experience in the development of the product-market fit, prototyping, and business development to aid TCA participants in the refinement of the prospective opportunity.

## Technology Selection

Problem identification began by using IP from NSWC Crane as a method to transfer military technology or ideas to civilian commercialization opportunities. The instructors and coordinator of the program identified and selected the initial patented technologies. This was conducted by assessing the claims of the IP and making selection based on how developed the IP was from conceptual to deployed, as well as capabilities to prototype, and lastly anticipated student comprehension. Additional sources of potential innovation discovery were identified as participants brought personal interests and local small businesses/entrepreneurs requested to participate.

## Talent Development

As retention of Brainpower is a top objective within the TCA, the first week of the program focused on talent development and career pathfinding. The students were prompted to identify their perfect occupation in the southwest Indiana region and construct a professional development plan to achieve that role. Additionally, students updated resumes, completed personality and work preference assessments, and individually connected with professionals in their desired occupation. The respective professionals were then invited to the culminating pitch event with the initiative and aid in enhancing the talent pipeline for regional employers.

## Ideation Framework

To begin ideation, students were introduced to high-level components of the NSWC Crane IP technology, its direct military application, and the problem it attempts to resolve. The students were encouraged to ask open-ended questions in this discovery portion done by visiting the location where the technology is currently deployed or visiting with the inventor or entrepreneur. Following the introduction to the problem, students began identifying various realms of application for the technology in a commercial space, i.e. students created divergent lists of other direct and indirect uses of the IP. After compiling a massive list of ideas with limited constraints, the students converged on their top areas of interest. Those focal points were then assessed based

on observable problems within that commercial domain, followed by solutions-oriented ideation exercises. Through this exercise, the TCA students retained the concept that every product must solve a problem for the consumer, as well as divergence and convergence ideation techniques essential to iterative opportunity discovery. Ideation is done via several different methods, and our program focused on methods developed by Celuch et al. (2014). The goal of this concept creation is to develop as many ideas as possible in the divergence phase using random stimuli and then converge by allowing participants to select only a few possible feasible solutions. The stimuli include, but are not limited to, imagery, sounds, and phrases. These stimuli provoke ideas, and participants note these solutions. Students were coached that no idea is too grand or impossible, and each captured idea stimulates thought and further ideation from the remaining participants.

## Feasibility Framework

Once the initial ideation session was complete, students began the process of determining which ideas to develop and assess for business analysis. Feasibility began based on the expertise of the students and mentors, as well as local resource availability, including a prototyping center and design software. Students select their top 3-4 ideas to conduct a careful examination on feasibility. Idea selection was done initially by a majority vote of the group. Through feasibility evaluation, students discovered if the idea had merit and proceed forward, if not, they returned to their remaining top ideas and restarted the process. Feasibility was categorized by two capabilities: (a) is there a market for the problem-solving idea?; (b) and can a technical prototype be developed to attain customer feedback? In initial TCAs this was done ad hoc, with students determining feasibility by their own set of parameters. In later TCAs, the Feasibility Idea Test (FiTest), a more formal documentation method, developed by USI faculty, that provided a first blush business case analysis was implemented. Technical feasibility used the university's Applied Engineering Center (AEC) and available engineering faculty for development of a functional prototype, or initial pretotype (nonfunctional façade). The market and technical feasibility analysis was repeated using customer feedback as validation to proceed or restart the process. Students went out to potential customers and received feedback on whether the problem was understood, and the solution was valuable. Discovery of market validation required qualitative interviewing techniques intended to map out the customer experience, thus framing the set of problems typically experienced by the potential customer more thoroughly before providing a suggested solution. If market viability was acceptable with present consumer demand, the students repeated this iterative process until all feasibility questions were answered, and the prototype had enough functionality to promote its innovative purpose.

### Business Model Canvas

Following market and technical feasibility, students were asked to develop a business case for their product. Generally started while conducting feasibility, the business model canvas (Supplemental Figure 2) is used to describe and build a business case by proposing and testing a series of hypotheses for each of nine components (Osterwalder & Pigneur, 2010). This allows the student to quickly propose, test, and validate the potential new venture via the visual layout to develop their pitch.

### Design Sprint Framework

The design sprint developed by Google Ventures was incorporated into the TCA curriculum to help develop more viable ideas through facilitated methodologies (Knapp et al., 2016). The sprint method created a more formal method to ascertain answers to questions on potential product ideas. Students could use this process whenever a question came up as a quick method to resolve and proceed with commercialization. The sprint process facilitates product development in a highly detailed, concise, and structured format that results in confident decision and clearer analysis. The design sprint is presented as a five-day process and covers problem definition, ideation, prototyping, and initial customer validation. If an idea is successful through this process, it could transition to feasibility analysis via the rigorous FiTest.

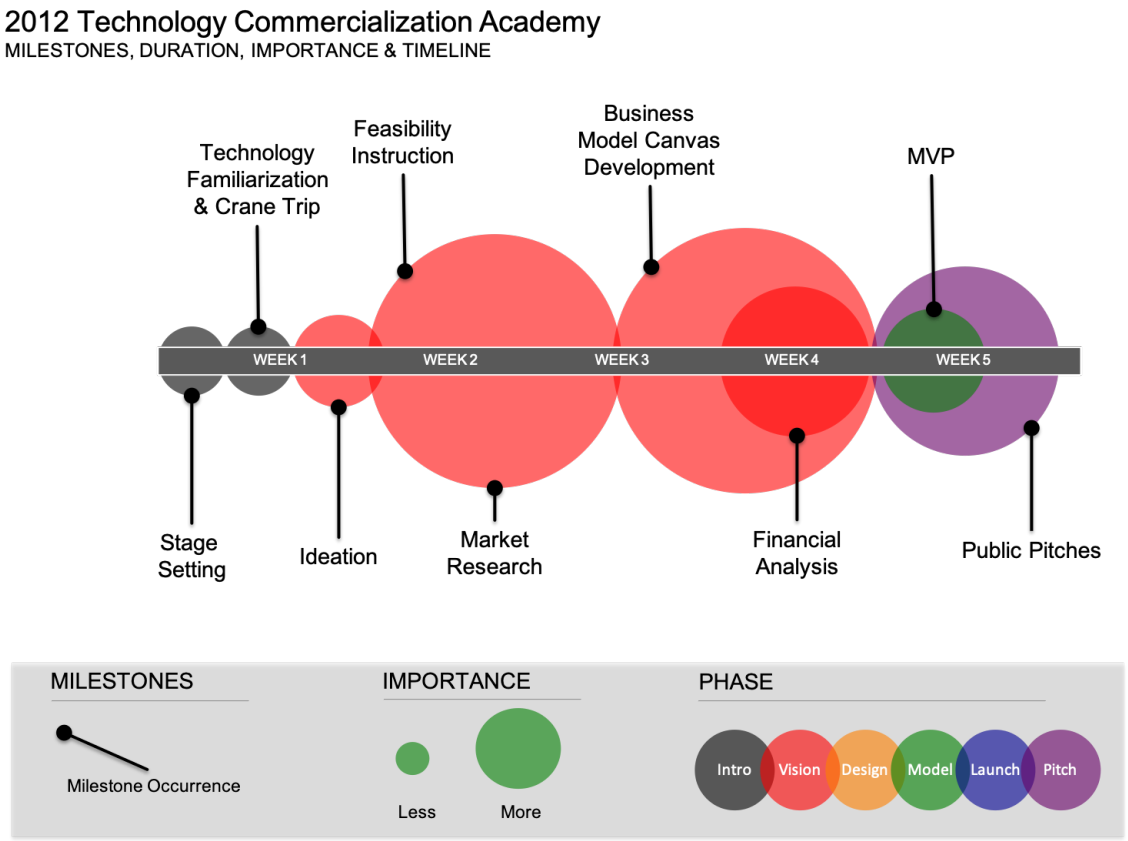
### Jobs to Be Done Framework

Customer validation is a critical point in the commercialization process as it determines the viability of the idea and dictates the direction or progress of the proposed solution. Jobs to Be Done (JTBD), a qualitative interviewing and customer journey mapping technique, was utilized during the last three TCAs to help students understand the solutions and process by which consumers currently solve the problem. JTBD explores the qualitative analysis of consumer purchasing behaviors through assessment of the explicit journey the customer takes to make a decision. Through the development and implementation of interviewing techniques, participants explored the emotional and chronological journey through the lens of a recent potential customer's experience. This formalizes the customer interaction as a result of insights from a sample of those who had already made decisions on existing solutions, aiding in the evaluation of feasibility, and determining the true demand of the customer (Christensen et al., 2005). TCA students were introduced to this methodology very early in the program in preparation for interviewing the original inventors of the NSWC Crane IP. This created an inquisitive atmosphere in the general workspace as the JTBD format constructs a personal interaction between participants and encourages the students to remain quizzical throughout the duration of the program.

## Results and Findings

The initial offering (2012-2014) of the TCA was designed to mirror the curriculum of the USI Romain College of Business' AACSB accredited entrepreneurship minor. The program was five weeks in duration and provided a stipend for students participating in the program (Figure 3). During the first week, the TCA students were introduced to the program and visited NSWC Crane to learn about the IP selected for mining.

***Figure 3.*** Initial TCA Offering




Following IP identification, ideation commenced obtaining commercial opportunities. The second week focused on market validation of a converged set of opportunities with the third and fourth weeks being devoted to the development of the remainder of the business model via use of the business model canvas, with a small amount of time devoted to the development of a minimum viable product (MVP). During the final week, students developed and practiced a pitch which was delivered on campus and open to the public.

Mentors from outside entities were used to supplement expertise towards the business model canvas and pitch development. This approach generally worked but it was determined to be too short in duration at five weeks and university regulation forced a student labor cap at a maximum of 28 hours per week. As a result, the program was extended to an 8.5-week full-time equivalent (FTE) model, comprised of a 12-week duration with 28 hours per week. Further, at the culmination of its first year, based on the output created by the students, a more inclusive program was desired and applications were opened up to the entire campus.

TCAs 2015 and 2016 expanded on tools and time that the students used to develop their ideas into viable product offerings. Students now had 28 hours a week over a 12-week period. Ideation was still crucial in the initial stage with visits to NSWC Crane for technical understanding. Focus was brought toward increased customer validation through feasibility with a conceptual design and prototype. If an idea did not pass feasibility, the students revisited the idea or pivoted and restarted the feasibility process. The end of the program was marked by market validation for a few weeks and then pitch preparation in the final two weeks of the program. Students pitched ideas that were brought through the feasibility stage and noted where they may have failed in the process, or where they stand after the program, while encouraging feedback from the public audience.

To renew student excitement and bolster local impact, TCA 2017 highlighted interaction with clients, i.e. local businesses combined with IP from NSWC Crane. Second, design sprints (Google Sprints) were introduced to streamline student determination if the implementation of IP or other ideas had client merit and customer validation. A student team began by running a sprint on the problem posed by the client, and if initial customer validation was successful in the sprint, the teams would then transition to formal feasibility and prototyping, and finally to completion of the business model, if time allowed. This process allowed the students to fail and pivot quickly. As Woods et al., (2016) discussed, the students could then "Invest in, learn from, promote, and celebrate bite-sized successes. Then repeat" (p. 99). More time was spent on teaching tools to the students in the 2017 TCA to ensure students were well trained in development practices to benefit each student throughout their academic and professional careers.

***Figure 4.*** Culminating TCA Program Timeline

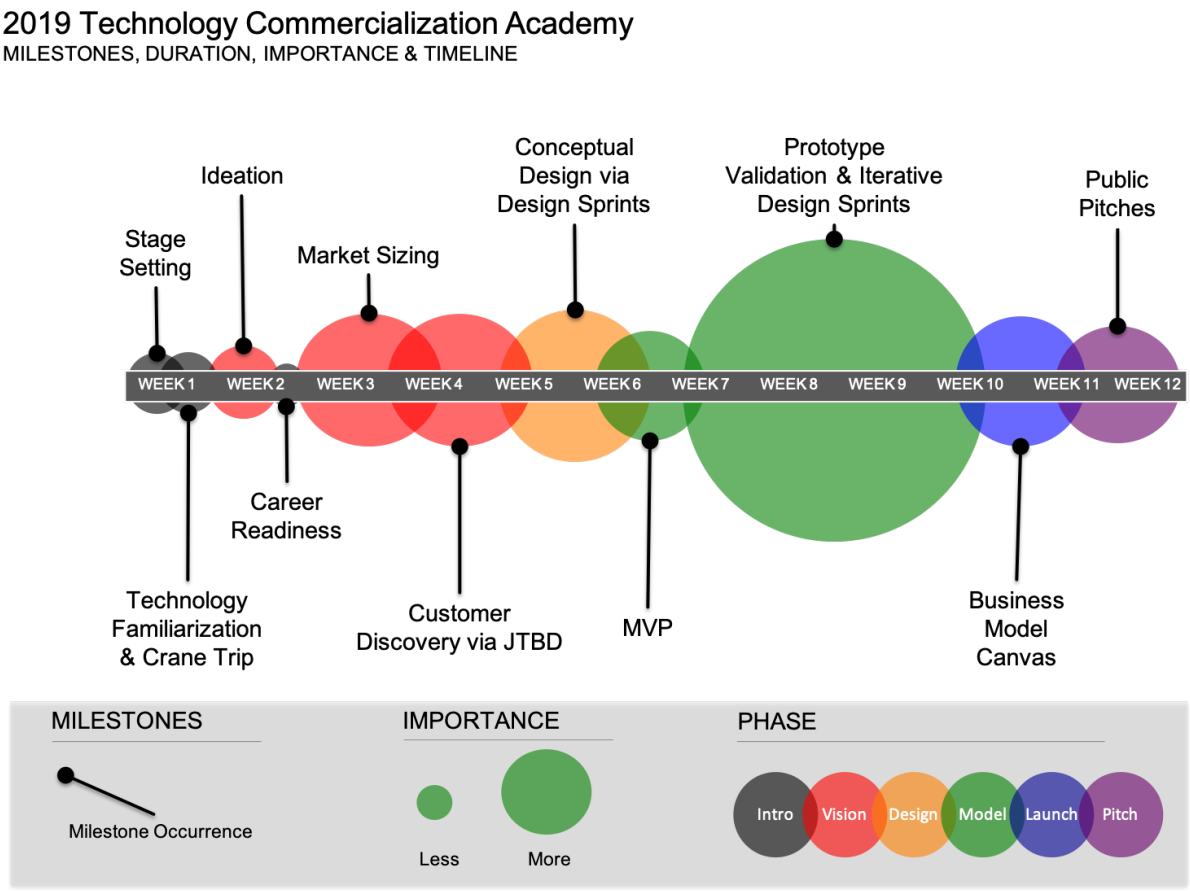



***Table 1.*** TCA Impact on Young Entrepreneur Characteristics

| Characteristics (Bezerra et al., 2017) | TCA Program Implementations |
|---|---|
| Practical activities as a way to develop new business ideas | 2012 – Usage of course developed ideation process by Celuch et al.; Interaction with NSWC Crane for IP |
| Centrality of the incubation process | 2012 – Crane IP Inventor interaction<br>2015 – Fit Test aimed at Supply Side feedback<br>2017 – JTBD Demand Side innovation; shift to self-sustaining unstructured use of toolset. |
| Lack of credibility and resources | 2014 – Program marketed to entire campus<br>2015 – Program moves to Innovation Pointe; Prototyping added.<br>2017 – Sprint Process; Program Recognition |
| Difficulty in maintaining a long-term relationship with the university | 2015 – Access to the USI Applied Engineering Center & Center for Applied Research |

TCA 2018 and 2019 (Figure 4) included increased professional development components and introduced the Jobs to Be Done (JTBD) toolset to the students. Professional development components were introduced to connect students with regional employers to intentionally optimize the talent pipeline. Students used the JTBD tool in conjunction with all the other previous tools, bringing focus to the problem the customer was trying to solve rather than general customer approval on supply-side innovations. Further, with student feedback on the rigidity of TCA 2017, a more informal TCA 2018 was conducted. These TCAs focused tools toward start of program. This permitted students to work at their pace, allowing them to take ownership of their idea rather than feeling pressured working on another company's idea or another student's passion project. However, the self-guided pace in 2018 resulted in an overall decrease of momentum, which impacted business case completion. TCA 2019 kept the same layout as TCA 2018 with the goal of balancing the freedom experienced in TCA 2018 and the structure that generated more output from the previous years. This final programmatic layout (Figure 4) brought forward a value-add toolset with focus on customer centric validation and improved on the initial offering seven years prior (Figure 3).

## Discussion of Findings

The TCA was originally developed as a method to aid in the translation of military IP into commercial IP, and through regular assessment a set of key features began to emerge as successes to the TCA program. An analysis conducted on reviewing the impactful characteristics of young entrepreneurs found that there are four characteristics needed for student start-ups to take the next step forward (Bezerra et al., 2017). During the maturation of the TCA program, which occurred simultaneously to this analysis, the authors independently validated need in the characteristics identified by Bazerra et al. As a result of the intentional qualitative assessment of the program and subsequent iterations as described above, the TCA developed solutions to those characteristics (Table 1).

In total, the TCA has pitched approximately 20-30 ideas over the seven-year program, in addition to the hundreds of ideas that were initially thought of but not continued due to feasibility issues. The ideas that had enough technical and market feasibility were pitched at an end of program public event (Table 2) and ranged from three ideas to a maximum of nine yearly. In total, 121 students completed the program and through the 2017 cohort, data were collected on students after their TCA experience (Table 3). Of those 89 participants that have completed the program, 100% of the students that shared data had job placement within six months, compared to the school average placement rate from 2012-2017 of 85.1% (OPRA, 2018). Of those students in the workforce, rates of 64% and 71% (OPRA, 2018) are observed for participants who stayed in southwest Indiana and university data of those within 70 miles of campus, respectively. Additionally, noted within the collected data from the TCA, nine participants created their own start-up companies.

***Table 1***. Summary of Idea Creation through TCAs

| Year (# of Ideas) | List of Ideas | Year (# of Ideas) | List of Ideas |
|---|---|---|---|
| 2012 (3) | • Bedsore Reduction Smart Pad<br>• Student Centered Course<br>• Scheduling<br>• Smart Target | 2016 (5) | • Exceed Group Communication<br>• Marshalling Gloves for Airports<br>• SPARA all-in-one household energy conservation<br>• Kitera Marketing Sprint and Design<br>• EAGLEi |
| 2013 (4) | • Eband Theme Park<br>• Tracking<br>• Real Time inventory<br>• Tracking System for Stores<br>• Instant Coupon using<br>• Geofencing<br>• Cell phone identification during emergency or disaster | 2017 (7) | • Boredom Busters Sprint/App<br>• 5D Analytics Sprint<br>• Motivating Systems feasibility/market<br>• 2Hook4: pitch and sprint<br>• TCA Branding/ Marketing Sprint<br>• DT Application in Engineering<br>• DT Application in Medicine |
| 2014 (9) | • 3-D scanner<br>• PUR-Wheel<br>• Physical Therapy Tracker<br>• Tread Condition Alert System<br>• Stop Tops<br>• Smart Roof<br>• Foundation Damage Detection<br>• IntelliTarget<br>• Clever Cubes | 2018 (4) | • MAGIC Glasses<br>• Drone Catcher<br>• Grill Regulator<br>• Nature Nodes |
| 2015 (5) | • EZ Spooler<br>• LOCify<br>• Hose Helper<br>• Volver Reel System<br>• Motor Development Arm | 2019 (7) | • UR Trash<br>• Curio<br>• Riverside Cinema<br>• Filetor<br>• Involve Life<br>• Wave Noise Cancelling System<br>• Screagle Card |

Anecdotally, past participants stated that during interviews with their future employers, a major discussion point was their participation in and skillsets developed throughout the TCA program. In an effort to increase the innovation index of the surrounding region, the 100% placement of participants is crucial to the success of the regional brainpower and intellectual capital initiatives developed at grant inception. As the program is open to all students, and those students who submit an application are pursuing advancement of their understanding and interest in innovation, the students who decide to become participants can be considered some of the university's most ambitious students. Even so, participants have traditionally been top students both academically and through campus involvement, as a result of the evaluation criteria utilized. Even though the program has a lower rate of retention to southwest Indiana relative to all USI

graduates (64% compared to 71%), these participants remain in the region, promoting its growth rather than moving to traditionally rich innovation magnetitic areas of the country. Though the program aimed to advance a participant's innovation capacity, as opposed to the creation of startups, it is important to note that ~10% of the graduates have taken it upon themselves to start a business.

***Table 2**. Participant Data after TCA (Through 2017 TCA cohort)*

| Participant Outcome (Collected Data) | Job Placement | | Pursuing Master's Degree | | Located in Southwest Indiana | |
|---|---|---|---|---|---|---|
| | Count | Percent | Count | Percent | Count | Percent |
| Yes | 54 | 100% | 9 | 16% | 35 | 64% |
| No | 0 | 0% | 46 | 84% | 20 | 36% |
| Overall Data (Based on 89 Participants) | | | | | | |
| Participant Data Collected | 54 | 60.70% | 55 | 61.80% | 55 | 61.80% |
| Unknown | 16 | 18.00% | 15 | 16.90% | 15 | 16.90% |
| Student | 19 | 21.30% | 19 | 21.30% | 19 | 21.30% |

Throughout the program, the most critical observation has been the correlation between success and the student's buy-in that the tools are useful and necessary throughout their careers. This connection is the reason why the program has adapted iteratively from 2012 (Figure 3) to 2017 (Figure 4). During the program, the participants do not directly see the benefit of the TCA tools, at times expressing frustration with the non-academic techniques. However, once the program is completed and a successful pitch has been presented, the students are better able to view the usability of these tools in the future, and how the tools shaped the results of their TCA experience, expressed via their statements related to job placement being driven by their participation in the program.

The TCA program was purpose-built to be adaptive to changing landscapes in cohort profile, available IP, and new innovation discovery techniques. Through the adaptations of the program, the structure was fine-tuned to maximize impact for students and community. First, the program had to realize its capabilities, and it was quickly identified that multi-disciplinary inclusive interaction is crucial, as were the roles of mentors and external participants. Once the program adopted these considerations, participants received both an enhanced understanding of technological theory and realization of technology commercial feasibility. It was noted that while knowledge of equipment, and science is generally crucial to prototype functionality, vision and creativity are required to bring a truly innovative opportunity to the table. Expansion of the opportunity to explore entrepreneurship across a university community brings diverse ideas and thought, in turn enhancing the student experience, programmatic output, and long-tail economic impact.

Adaptions from the initial undertaking of the TCA found success in developing student understanding that failure occurs, and in order to maximize value from those failures it is important to fail quickly to identify whether to kill, pivot, or focus effort. The five-day sprint was introduced to push the participants to not loiter with an idea and the inclusion of the sprint forced them to explore an idea, develop a testable prototype, focus on customer feedback, and make the decision on whether or not to move forward. This provided enhanced value, as it does in the context of software development, by providing a mechanism to timebox the creation of something tangible and testable.

Using this iterative process, the 2016 and 2017 cohorts attempted to have more direct impact on the external community by providing innovation as a service to external clients, which required a more structured schedule and coordination with local businesses. These cohorts were successful in creating ideas and delivering products for these businesses, but the impact on the student was missed. They learned the tools, but were unable to see how the tools work towards an idea that resonated, and therefore did not personally connect to the problems or the solutions addressing the needs of these external entities.

The 2018 and 2019 cohorts prioritized ideation and problem solving that is relevant to the participants and generates passion and enthusiasm. Since the ideas originated from the student, they had complete buy-in on the importance of the problem they attempted to resolve. This resulted in a more thought-provoking and rewarding experience for the students, though the immediate impact on the regional community diminished. Following several iterations of the program it was determined that this promoted intermediate and long-term return for the community as a result of equipping these cohorts with the tools necessary to identify and exploit economic opportunities for either themselves or their employers upon graduation.

In review of the seven-year program, it was found that participants needed to learn balance and agility. Traditional entrepreneurship programs deliver on supply-side innovations, which are often those with high potential but in search of a customer. The introduction of Jobs to Be Done, as well as the sprint processes brought focus to the consumer. The authors noted that students can have trouble accepting that their idea is not the right idea; providing a framework to hear directly from potential customers has immense value in validating their idea or providing potential pivot opportunities. Similarly, solely focusing solely on demand-side innovation places limitations on ideation and restricts impact of potential outcomes. Participants and coordinators have to be agile in the use of different frameworks to help understand prospective problems or needs. Mentors have to be open to other frameworks to aid in a guiding participant's prospective venture. While a mentor-sponsored framework may be beneficial, other processes are available to formulate, test, and move an idea forward, the authors found it critical for mentors and participants to have many tools in their toolbox from which to gain insight.

As a direct result of the TCA, the Rural Indiana Technology Commercialization Initiative was started and other national federal labs have begun their own commercialization academies (Air force Research Laboratory, 2015). The program has been recognized nationally, including commendation as a significant contributor to the successful relationship with NSWC Crane during a briefing hosted by the Office of Vice President, Mike Pence (Luttrell, 2017). As a program initiated through grant funding, USI decided at the culmination of the grant to continue the program.

## Conclusion

By objective measure the TCA program has been considered a success in providing new capabilities to USI graduates and subsequently the region, each graduate of the TCA program is equipped with skillsets that prepare them to constantly look for opportunity, communicate the value of that opportunity, and capitalize on it. The success of the program is quantitatively demonstrated to align with the goal of raising the innovation capacity of USI graduates and the region. In an effort to increase the regional Innovation Index score to 20% by 2025, the TCA generated employment placement of 100% of participants in positions within six months of graduation, retention of 64% of this top-tier talent in the region, and the generation of nine new entities via participants who created their own startup.

While these quantitative indicators of success are powerful, it is important to note that they are also coupled with qualitative recognition at the highest levels of the federal government and regional partners. The resulting product from the TCA is enhanced human-capital planted throughout the southwest Indiana community via shovel-ready entrepreneurs and intrapreneurs who are equipped to provide exponential return to themselves and their employers as they enter the workforce. It is clear that the long-tail impact of the 121 TCA participants involved since inception in 2012 will have a profound impact on the economic expansion of the region.

## Acknowledgments

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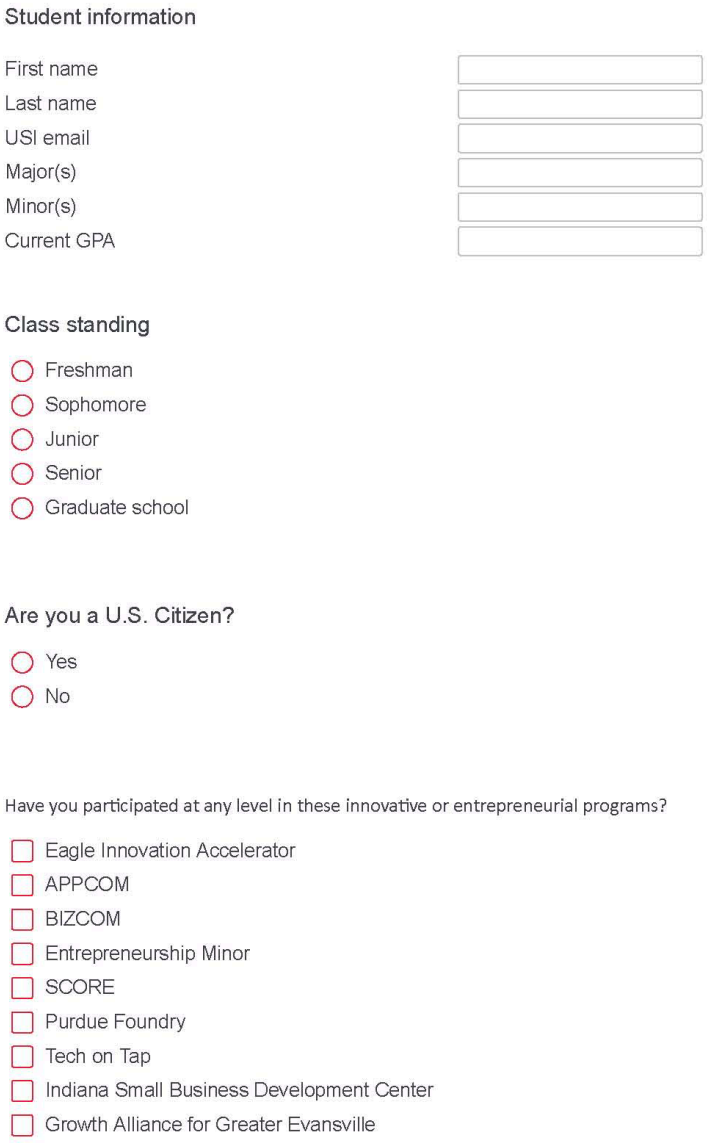
## Supplementary Material

***Supplemental Figure 1.*** Student Application for TCA Program.



Student information

First name
Last name
USI email
Major(s)
Minor(s)
Current GPA

Class standing

- ◯ Freshman
- ◯ Sophomore
- ◯ Junior
- ◯ Senior
- ◯ Graduate school

Are you a U.S. Citizen?

- ◯ Yes
- ◯ No

Have you participated at any level in these innovative or entrepreneurial programs?

- ☐ Eagle Innovation Accelerator
- ☐ APPCOM
- ☐ BIZCOM
- ☐ Entrepreneurship Minor
- ☐ SCORE
- ☐ Purdue Foundry
- ☐ Tech on Tap
- ☐ Indiana Small Business Development Center
- ☐ Growth Alliance for Greater Evansville

☐ Other

Describe what motivates you and how you demonstrate initiative?

What are your plans following graduation?

What motivated you to apply to the TCA?

What makes you unique and how do you believe that will benefit the TCA?

What USI faculty (i.e. Professors, advisors, etc.) or work supervisor could speak as a reference for you?

First name
Last name
Email
Phone

Do you have an idea that could benefit from being worked on during the TCA? If so, please describe the idea in detail (**Note**: All submissions will be restricted to a need-to-know basis for candidate evaluation).

Why should we select you to be one of the 16 students taken?

Answer one of the following:

Describe how would you determine the size of the market (number of potential users) for the fall semester at USI for a calculus tutoring mobile app?

What design media (e.g. which software) are you comfortable working in? Describe your design process (if any).

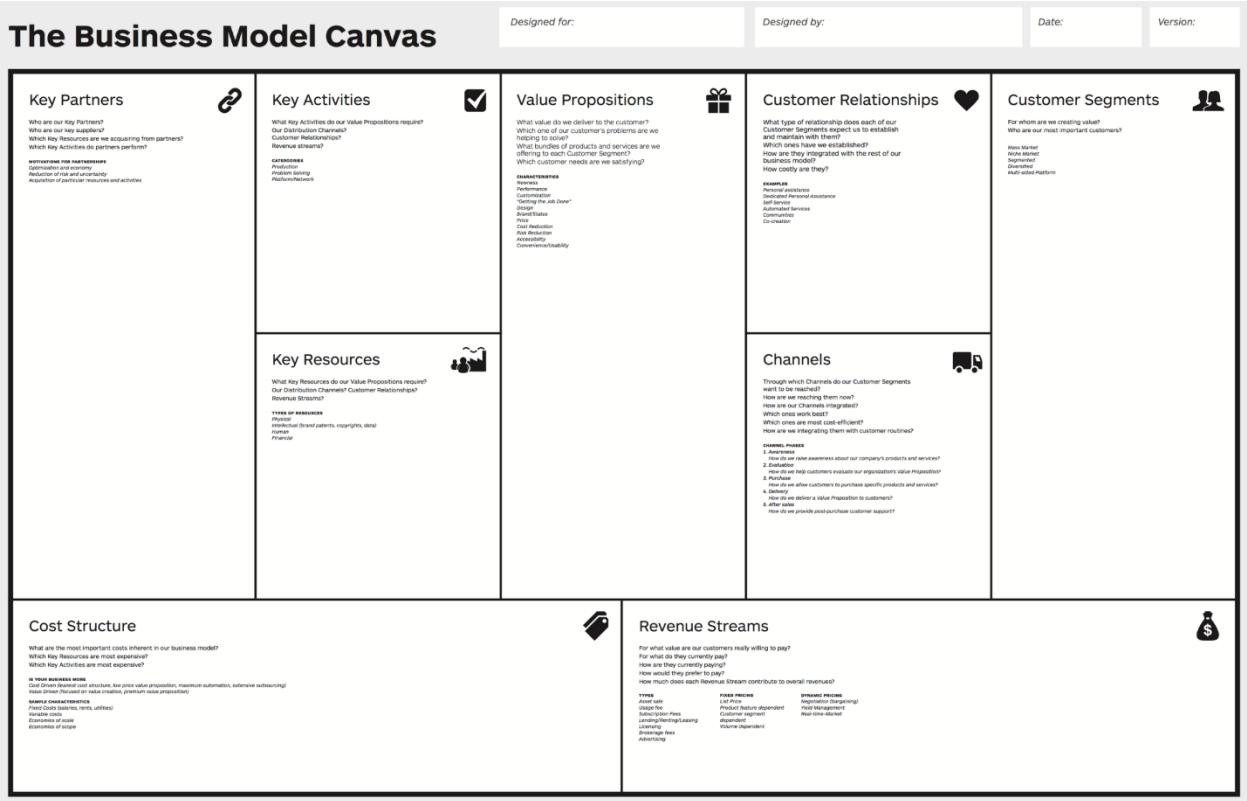
Click to write the question text

I'm not a robot

reCAPTCHA
Privacy - Terms

Powered by Qualtrics

***Supplemental Figure 2.*** Business Model Canvas (Osterwalder & Pigneur, 2010).



METROPOLITAN Universities

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Original Research

# Cultural Competency Activities: Impact on Student Success

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## Abstract

This study examines the impact of a cultural center on students' views and perceptions of their own cultural competency learning and ability to manage their college experience at a large metropolitan university. This exploratory analysis highlights the views of ten students who frequently engaged with a cultural center. Emerging themes include: (a) how students at a metropolitan university defined cultural competence; (b) challenges, difficulties, and problems participants experienced interacting with people from other cultures (e.g. nationality, ethnicity); and (c) successful interactions participants experienced with people from other cultures. Findings and discussion from this study suggest: (a) identity, exposure, and critical awareness; (b) navigating and negotiating conflict; and (c) engaging cultural resources are the skills students develop, through experiences with a cultural center, that impact their ability to manage their college experience. This project studied a culturally mixed group of students using personal experiences, interviews, and focus group discussions to describe meaningful and defining moments. This study and its findings are noteworthy because there is little research in this subject area. All participants were frank, cooperative, and candid throughout the process. They offered insights and shared information regarding cultural competency at Metropolitan University (MU).

**Keywords:** cultural centers, student affairs, career readiness, student development

## Introduction

Cultural competence is one's ability to appreciate, respect, and accept differences in perspective and behavior based on cultural commonalities and differences. This skill is imperative for college students as they transition to the workplace (Chun & Evans, 2016). The acquisition and expansion of cultural competence is necessary in the student experience at cultural centers on college campuses. Mitchell Hammer (2009) suggests cultural competence is a key ability needed to work and live effectively with people from various cultural backgrounds. Notably he affirms, "cultural competence is essential for transcending ethnocentrism and establishing effective, positive relations across cultural boundaries both internationally and domestically" (Hammer, 2013, p. 7).

The promotion of cultural awareness and the increase of cultural sensitivity are primary facets of contemporary higher educational settings. American colleges and universities are being redefined by the pervasive understanding that freedoms of expression are shaped by not only the culture of our campuses but the cultural impact of our constituencies. This cultural impact, which if not clearly understood, oftentimes leads to student demonstrations or even escalate to campus crisis and institutional unrest. A better understanding of culture, its various forms, and stakeholders' perceptions of culture will allow for the incidents mentioned above to develop into places of educational opportunities.

Metropolitan colleges and universities have become prime environments for increased cultural sensitivity and promotion of cultural awareness. Cultural competence at these institutions, however, must be infused in the structural and organizational practices found on these campuses (National Education Association, n.d.). Establishing co-curricular cultural competence experiences that target students will vary across metropolitan institutional types because of the cultures, contexts, and choices that evolve in the design process found on each campus. The purpose of this study was to better understand the impact of a cultural center on student views and perceptions of their own cultural competency learning and ability to manage their college experience at a large metropolitan university. This study was guided by the following central research question: What is the impact of a cultural center on student views and perceptions of their own cultural competency learning and ability to manage their college experience at a large metropolitan university?

## Literature Review

Contemporary college graduates must be equipped with cultural competence to navigate diverse environments and identify another's sense of belonging, using critical thinking skills and academic-specific knowledge in creative ways to address major global questions in order to develop sustainable solutions to our local, national, and world problems (Hammer, 2013; McCoy, 2011; Patton, 2010). For the purposes of this study, the authors define cultural

competence as "the capability to shift cultural perspective and appropriately adapt behavior to cultural difference and commonalities" (Hammer, 2013, p. 26). "Cultural competence" as a student learning outcome at metropolitan colleges and universities include efforts supported by both academic and student affairs as well as student success units. In metropolitan campus settings cultural competence can serve as a foundation for all high impact student success practices including, but not limited to, learning communities, community engagement, study abroad, disability services, and other curricular and co-curricular activities designed to develop, educate, and prepare individuals to tackle the challenges of living in and expanding urbanized societies (Kuh, Schneider, & AACU, 2008). A cultural center may facilitate and offer some of these high impact practices.

## Cultural Centers and Student Affairs

Mono-identity and intersectional focused centers, such as the one in this study, both provide spaces for students to develop their cultural competency skills by connecting around identity and cultural aspects of the university experience. To accomplish their goals, these centers must create spaces that are guided by specific standards around intentional learning, social justice education, and cultural competence skills, specific to the institution (Jenkins, 2017). In a broad list of competencies for Student Affairs Practitioners, ACPA – College Student Educators International & NASPA – Student Affairs Administrators in Higher Education (2015) include social justice, a category under which cultural centers should frame their work. Patton and Hannon (2008) note that although the spaces responsible for this type of work are often placed within student affairs units in a college setting, to be successful in the promotion of cultural awareness, these practices must be threaded through the campus environment.

## Cultural Centers and Cultural Competence

The Intercultural Development Inventory, a premier tool in assessing cultural competence, developed by Mitchell Hammer, defines cultural competence as "the capability to shift cultural perspective and appropriately adapt behavior to cultural difference and commonalities" (Hammer, 2013, p. 26). Patton (2010) asserts the importance of culture centers on the college campus as spaces "where students' feelings, ideas, cultures, and experiences not only matter but receive validation and support" (p. xvii). Successful cultural competence efforts on campus are more than just the existence of cultural centers; they should foster a sense of belonging by engaging students in comprehensive ways to ensure they graduate. Patton (2010) further highlights the importance of examining the work of cultural centers through audits, such as departmental program reviews.

Patton (2010) asserts that audits should include examination of whether a culture center is providing students the opportunity to build community on campus and promote a sense of "belongingness" (p.196). Thus, a role of cultural centers should be to provide students with the

sense that they belong within the larger university community. They can also contribute to the university's overall success and students' educational goals, in broader ways. For example, in McCoy's (2011) recommendations for improvement for multicultural affairs work at public universities, he highlights the need for cultural centers to play a role in fostering students' global citizenship, contributing to students' retention at the university and providing physical and programmatic space. Jenkins' (2008) cultural programming framework highlights the role of the cultural center in operationalizing an institution's goals for inclusion, but this must incorporate initiatives that foster true learning.

## Methodology

The purpose of this study was to better understand the impact of a cultural center on student views and perceptions of their own cultural competency learning and ability to manage their college experience at a large metropolitan university. Metropolitan University (MU) has been recognized as the most diverse institution in the State University System (SUS), which makes work around building cultural competence more relevant. The Multicultural Ambassadors Program (MAP), developed by the MU Cultural Center, involves MAP Ambassadors, a group of undergraduate students who are selected and trained to facilitate workshops, trainings, and discussions in the classroom and elsewhere across campus designed to build cultural competency skills. The goal of this initiative is to educate the MU community in cultural competence, inviting students, faculty, and staff to explore society through a global lens. This qualitative study used an interview-based case study to understand the impact of a cultural center on views and perceptions of MAP participants and non-MAP participants regarding their own cultural competency learning and ability to manage their college experience at a large metropolitan university (Glesne, 2011). There is no institutional expectation or requirement for students at MU to develop cultural competency. This research project was approved by the university IRB Board.

### Selection of Sample

For the purposes of this study, ten randomly selected students participated in individual interviews and a focus group. The sample included five students who were past participants in MAP program and five students who were not past participants in MAP program but frequently engaged with the cultural center in order to draw conclusions. The authors used a semi-structured interview approach to compare the perspectives of the program participants and non-program participants on their experiences within the cultural center.

The sample selection criteria for this study were chosen for several reasons. First, the authors wanted to explore which experiences MAP participants and non-MAP participants identified as cultural competency activities. Second, the authors wanted to compare the similarities and

differences between the experiences of both groups. Third, the authors wanted to study this population because there is very little research in this subject area. Fourth, the authors wanted to examine how the cultural center assists students at MU in the development of cultural competency skills.

## Data Collection

Data collection included interviews, focus groups, and a questionnaire. The interview questions addressed the central research questions (see Interview Questions). The interviews allowed the authors to examine what the cultural competency experiences were for past MAP participants, how the program helped define those experiences, and how they compared to the experiences of the non-MAP participants. Focus group questions and discussion were developed around an analysis of themes that surfaced during individual interviews (Creswell, 2013). Initial themes discovered in the individual semi-structured interviews informed the focus of the group interviews (see Questions/Prompts for Focus Groups). These themes included: cultural competence, cultural conflict, success through conflict, and cultural competence resources. Open-ended questions were used to initiate the discussion, allowing the participants to explore and clarify their views, build off the responses of other participants, and allow the participants to guide and direct the course of the research study. As part of this study, the authors also collected data to provide a demographic profile and academic achievement analysis for the groups in the study (Table 1). The authors structured our research to explore the impact of a cultural center on the development of students' cultural competency skills at MU.

***Table 1.*** Demographic Information

| Demographic Information for Participants | *n* | Percentage |
|---|---|---|
| Pell eligibility | | |
| Eligible | 7 | 70% |
| Non-eligible | 3 | 30% |
| First-generation status | | |
| First-generation | 7 | 70% |
| Non-first-generation | 3 | 30% |
| Race | | |
| Black or African American | 9 | 90% |
| White | 1 | 10% |
| Ethnicity | | |
| Black (non-Hispanic) and Hispanic/Latinx | 1 | 10% |
| Black (non-Hispanic) | 1 | 10% |
| Non-Hispanic/Latinx | 7 | 10% |
| Hispanic/Latinx | 1 | 10% |
| Gender | | |
| Male | 5 | 50% |
| Female | 5 | 50% |
| Academic Major | | |
| Economics | 1 | 10% |
| Anthropology | 1 | 10% |
| Political Science | 1 | 10% |
| Philosophy | 2 | 20% |
| Exercise Science | 1 | 10% |
| Pre-managerial sciences | 1 | 10% |
| Neuroscience | 1 | 10% |
| Early Childhood Education | 1 | 10% |
| Spanish | 1 | 10% |
| Academic Classification | | |
| First Year | 2 | 20% |
| Junior | 3 | 30% |
| Senior | 5 | 50% |
| Total | 10 | 100% |

In examining data for the participants in the study, seven of the ten participants had a 3.0 GPA or higher; however, all participants were in good academic standing. The university defines "good standing" as earning a minimum grade point average of 2.0 each semester. The authors found that seven participants were Pell-eligible and seven were first-generation college students. Finally, when analyzing academic classification of participants, the authors found that two were first year students, three were juniors, and five were seniors. The sample had a wide diversity of academic majors, including only two participants with the same major. The participants were a close representation of the overall student population who used the center.

### Data Analysis Procedures

The purpose in using a data analysis and representation approach structure (Creswell, 2003) was to provide a methodology to guide the analysis and configuration of data to categorize, reflect, and interpret. The following data analysis approach was applied for each participant in this study: create and organize data; data review; data coding; description of the case; interpretation' and validation of findings. The authors coded the data once it was reviewed. Data was sorted into themes that exemplified the same theoretical or descriptive ideas (Glesne, 2011). After data from individual interviews were coded, each participant's experience was uniquely described. The cases were then combined into two groups of either MAP participants or non-MAP participants. The common themes revealed through individual interviews were used to develop focus group questions to further interrogate the patterns within each group. The authors identified themes in the data to define and demonstrate understanding of the information collected. The coded data was transformed as the authors conducted interviews and focus groups and connected the findings with personal experience (Wolcott, 1994). Relying on Creswell's (2003) method of triangulation, document comparison, peer debriefing, and member-checking were used to assure trustworthiness.

Within the analysis of interview and focus group data, participants' personal success is measured as attainment of skills such as a humanitarian approach to cultural conflict, and the ability to navigate and dismantle cultural barriers (Council for the Advancement of Standards in Higher Education, 2015). These impacts are defined by participants' personal reflections on their experiences. The authors are also able to measure participants' academic success through analysis of the demographic profile (Table 1).

## Findings

What is the impact of a cultural center on student views and perceptions of their own cultural competency learning and the ability to manage their college experience at a large metropolitan university? MAP and non-MAP participants were evenly represented in order to provide a complete sample of students who are involved with the cultural center. Upon comparing these

two groups, the authors found that the qualitative differences between MAP and non-MAP responses are not significant, and will not differentiate between the two groups in this analysis.

### Identity, Exposure, and Critical Awareness

Participants expressed deep, nuanced understandings of their cultural identities and the ways these identities may conflict with other people on campus. Participants agreed that culture is the traditions and identity that distinguish one group of people from another and that cultural competence is a respectful open-mindedness and comfort level with difference. Rather than focusing on any similarities or differences between themselves and someone else, one participant explained, "I think actual cultural competency is appreciating someone else's culture in its own right and not having to make comparisons necessarily to your own culture."

Some participants went on to offer a more complex explanation of what it means to be culturally competent; they described cultural competence as an action and a choice, a willingness to embrace the unfamiliar, an effort to communicate, adapt, and find common ground. "[Try] to share viewpoints and have a revelation through shared experiences," one participant urged. Participants recognized the impact of arriving at a culturally-diverse campus. As one participant reflected:

> When I got to college…I really learned about all the different ways that Blackness can be presented…that for me was my first experience where I was like "Oh my gosh, Blackness isn't just this monolithic thing that I thought it was when I was younger. It's all these different types of intersections and experiences that share this common thread." That was a very revolutionary kind of experience for me.

Another participant commented:

> Going to a university like [MU], it's very diverse, I encounter people from different backgrounds on a day-to-day basis. In terms of cultural difference, I do see a lot of different things in terms of how people interact with one another, different jargon that's used in conversation among different groups of people[.]

Participants also noted the intersection of race and class that becomes more apparent upon exposure to new people from varying backgrounds. Participants acknowledged their own class positionality and its impact on their relative privilege. Many described the economic ups and downs in their lives as shifts in and out of different class statuses. One participant explained:

> I am…middle class or whatever, but for right now I'm poor because I'm in college, you know. But I can tell when I interact with someone that is of a different race or social class, they don't listen to me as much because they don't think I'm on their level because they have more money than me[.]

Another participant said:

> I grew up, we grew up poor, and as we got older, we kind of moved up to, like, middle class as my parents got better jobs and things like that, so…I've seen the poor side and I've seen the middle-class side[.]

This critical awareness is impactful: in the words of one participant, "Being a minority allows me to understand that I need to go the extra mile in every facet of my life. It motivates me to want to be a better person and do better things."

### Navigating and Negotiating Conflict

Participants extended their cultural awareness to the many dimensions of identity-based conflict and oppression. These dimensions included race, gender identity, sexuality, socioeconomic class, and religion; participants cited conflicts in all of these categories, as well as intersectional conflicts across categories.

Participants experienced racial conflict in a variety of culturally embedded forms ranging from overt to covert. They cited white privilege, disempowerment, hostility, insensitivity, stereotypes, misperceptions, microaggressions, and the emotional labor of having to frequently explain a particular racial identity if it did not match up with a preconceived notion, for example, being multiracial or identifying as Black rather than African American. Participants unpacked racial conflict as a misunderstanding that needs to be unlearned through cultural competency. One participant said:

> As a social construct, we are taught that race is really someone's skin tone, who they are, and where they come from. But in reality, race is just a way to categorize people. Those that don't know that race has nothing to do with who people are at times unwilling to think differently and that causes conflict for both them and the people they are placing in that race category.

Another participant commented:

> I guess if you're talking about being a Black male, we could talk about the years of how Black men have been stigmatized, and culturally how that works in America, and that kind of informs some of my thought process now.

A third state:

> I think the biggest barrier has been race in itself…other groups of people may have little to no exposure to those of my race, and the challenge with that is just understanding how to navigate through those barriers and finding basic commonality and common ground to kind of start a conversation in the first place.

This discussion extended to include intersectional conflicts with gender, sexual, and religious identity. Participants of varying gender identities commented on gender inequality and the added challenges that come with the stereotypes and cultural differences of being a Black woman, or a Muslim woman, or a gender-non-conforming Black Muslim. Participants who identified as straight expressed empathy and a desire to be allies to the LGBTQIA+ community.

Another area of conflict discussed was religion, specifically religions that are minorities in the U.S., including non-theism. Participants cited oppression both against and within religions – that is, insensitivity and judgment towards minority religions by majority ones such as Christianity and Catholicism, and oppressive ideologies bred by religion against intersecting cultural categories, such as anti-abortion and anti-LGBTQIA+ beliefs. One participant pointed out a conflict-ridden intersection between race and non-theism in the black community: "Queer and black and non-theists…is a very small group of people whereas in a lot of white queer communities' non-belief is an expected thing almost. One participant summed up religion's cultural relevance: they explained, "Religious oppression is, I think, something that's not often thought about as having 'real world' consequences. We forget that religious oppression is not just restriction on practice; it intersects often with classism, sexism, anti-Blackness and many other things."

Many respondents mentioned that these experiences made them culturally sensitive, humble, and appreciative of fellow open-minded people. They also consider themselves particularly attune to areas where they experience more or less privilege than people in other social positions, such as being a racial or gender minority, and a member of a majority religious sect or sexual orientation. Many participants find that their minority status(es) made them more adaptable, more empathetic, and more apt to deconstruct stereotypes and look for common ground with others. "Everyone has to 'unlearn' things, even about the communities with which they identify," explained one participant.

Participants with non-minority statuses mentioned that they use their privilege to create occasions to teach others about cultural minority groups; for example, one participant who is a member of a religious organization hosts awareness events on Islam and Hinduism in order to seek common ground. This person stated:

> [I]t was one of the best meetings we've had this entire semester, we had the biggest turnout of people…and we all just hung out and asked questions…they just talked a lot about what [Islam] means to them…it cleared up a lot of misconceptions. We have meetings like that I think they're really a success when we can have Muslim students and atheist students and Christian students come together…[it's] beneficial for all parties.

When asked why common ground is such an important goal, respondents explained that it is the only way to move forward in communication. They articulated that communicating towards

common ground creates comfort, from this comfort comes trust, and from trust comes the opportunity to bridge gaps in cultural understanding and connection.

Participants spoke of using cultural competence as a tool to renegotiate certain parts of their own culture. One participant who is religious convinced their family to transfer to a socially tolerant church and another began using their MAP Ambassador training to transform negative, racialized experiences into opportunities to communicate and deconstruct conflict, rather than walking away in anger.

Many participants had similar views related to the importance of advocating for cultural competence activities so that even the most privileged individuals might become engaged in cultural empathy, adaptation, and the unlearning of oppressive ideologies. One participant stated:

> Making yourself aware of your privilege and revealing that to other similarly-privileged people are the first steps to advocacy and allyship. I think it's important to have students, faculty, community members with different privileges rally around people who are disadvantaged in the same way.

Another participant commented, "When you realize your privilege and become culturally aware, then you can effectively make changes to improve issues. It is important to get people who aren't already there to help ignite competence."

### Engaging Cultural Resources

Participants noted that it is necessary to have access to resources in order to work towards becoming culturally competent. They also agreed that these cultural competency resources are readily available to them at MU and that simply being on campus at all is a constant cultural experience.

Beyond this exposure to a culturally diverse student body and beyond the cultural center as their primary resource, participants also cited the following as valuable cultural competence resources on campus: language courses, opportunities to study abroad, Model UN, student services offices that cater to particular identities, and university-wide activities offered at student housing and elsewhere on campus. Student clubs, in particular, are cited as an empowering opportunity to lead and create cultural events, such as the religion event mentioned in the previous section.

When asked about off-campus opportunities for cultural competence-building, participants cited the internet and social media as major tools for access to new and different ideas and people, a blurring of cultural lines, and quick way to spread and gain knowledge. They also praised local arts scenes as places to share common ground with different people, cultural activities in the local communities such as film festivals, voluntarism and advocacy groups, and professional mentors and coworkers.

Expanding on the findings of Astin (1993) and Villapondo (2002), our findings demonstrate the myriad positive effects of access to, and participation in, cultural competence activities on campus. Participants shared the creative methods they use to respond to cultural conflicts. One participant mentioned that they enjoyed navigating their multiple racial and ethnic identities during interaction with different friend and family groups; they saw it as an advantage to have this authentic access to so many cultures. With regard to the cultural center in particular, participants reflected on the solidarity built and felt with members of a similar identity; they spoke of the relief of being around fellow minorities as an escape from the emotional labor of being expected to represent an entire race, gender identity, or religion when in other spaces. MAP participants received, as part of their involvement with the center at MU, training and development on cultural competence and related topics. In addition, the center's program offerings focused on identity, culture, and more. Therefore, MAP and non-MAP participants would likely have had opportunity to reflect about their own cultural competence prior to this study's data collection. This is an advantage for this research, as these participants were well positioned to provide keen insight. Many of the participants, MAP and non-MAP alike, were involved in the center's programming and events prior to this research. In future studies, further examination of cultural centers outside of the metropolitan context would yield important comparative results. Additionally, similar data collected at another type of institution, such as a religiously-affiliated institution, or small private institution, is a direction future researchers should consider.

## Conclusion and Implications

Our findings suggest that identity, exposure, and critical awareness; navigating and negotiating conflict; and engaging cultural resources are the skills students develop through experiences with a cultural center at a metropolitan university. These experiences correspond with Learning Reconsidered (NASPA & ACPA, 2004) student outcomes of persistence and academic achievement. Participants in the study were able to reflect on their ability to develop skills to manage their college experience by addressing cultural barriers to their ability to manage their college experience.

Barriers such as the emotional labor of being expected to represent an entire race or gender identity were deconstructed and an environment of cultural inclusion was established in the cultural center. Such experiences enabled participants to build humanitarian skills of understanding, appreciating differences, and advocating to dismantle systematic barriers of oppression. Moreover, participants reflected their ability to navigate conflict by working cooperatively with individuals different from themselves and people with different points of view, skills reflecting cognitive development and career preparation (Council for the Advancement of Standards in Higher Education, 2015).

The study indicates that cultural centers should serve as safe spaces for students from diverse backgrounds to reflect on the variance in their socially constructed cultural identities. These spaces should also provide students with the opportunities to reflect, embrace, and value how those identities are both similar and dissimilar. Many students, however, will arrive to campus with concerns that their social and cultural identities will not be embraced. This study demonstrates the importance of maintaining cultural center spaces as a student success bastion for a college or university community. This is underscored during a global pandemic where many college students have struggled to maintain connections to their campuses via remote learning environments.

As metropolitan universities and colleges rebound from a global pandemic, resources will be strained throughout the campus. It will be important that university administrators and policy makers continue to invest in the work, growth and expansion of the cultural centers on their campuses. Cultural centers will continue to support expectations that student graduate prepared to enter competitive job markets demonstrating "work-readiness." This study reveals that college students who connect with cultural centers acquire skills that prepare them to navigate global spaces where cultural awareness will serve as an employment requirement. Although the tenets of student success have often been associated with academic advising and financial solvency, these are only some of the aspects that contribute to successful student retention. Student success initiatives must also include varying aspects of student belonging and fit specific to their institutions. These are extremely important aspect for metropolitan universities and colleges who may not always have traditional campus environments. Cultural centers provide students an opportunity to explore and connect with their gender, sexual, racial and religious identities which help them better maneuver the various academic spaces they will encounter on campus. Moreover, cultural centers can help students navigate densely populated urban environments which are rich in multifaceted cultures and traditions.

This study reflects how learning does not occur in a vacuum nor only manifests in academic classroom settings. Lifelong learning occurs through many different facets including cultural centers, residence halls, Greek life, student conduct, and civic engagement. These out-of-classroom experiences help provide students with a holistic approach to learning that better prepares them to enter grounded workforces. The authors have learned through a global pandemic that students and student success initiatives require the whole campus to embrace innovative approaches to facilitating student retention and matriculation. These initiatives will call for academic affairs, student affairs, and student success units to work in sync to support students in a post-pandemic environment. Lastly, metropolitan colleges and universities are microcosms of larger societies and it will be the responsibility of their cultural centers to foster environments that promote efforts that shape inclusive and culturally aware environments.

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## Supplementary Data

Interview Questions

1. How do you define culture?
2. What is your definition of cultural competence?
3. What has your experience been around cultural difference?
4. Describe the cultural competency activities you have participated in at Metropolitan University. These are experiences in which you have the opportunity to shift your cultural perspective and appropriately adapt your behavior to cultural difference and commonalities.
5. What did you experience as challenges, difficulties, and problems in interacting with people from other cultures (e.g. nationality, ethnicity)?
    a. Discuss the relationship you believe these challenges had to your race.
    b. Discuss the relationship you believe these challenges had to your gender.
    c. Discuss the relationship you believe these challenges had to your sexual orientation.
    d. Discuss the relationship you believe these challenges had to your socioeconomic class.
    e. Discuss the relationship you believe these challenges had to your religion.
6. What did you experience as successful interactions with people from other cultures (e.g. nationality, ethnicity)?
    a. Discuss the relationship you believe these successes had to your race.
    b. Discuss the relationship you believe these successes had to your gender.
    c. Discuss the relationship you believe these successes had to your sexual orientation.
    d. Discuss the relationship you believe these successes had to your socioeconomic class.
    e. Discuss the relationship you believe these successes had to your religion.
7. What are some resources and services at Metropolitan University that you think helped you interact successfully with people from other cultures (e.g. nationality, ethnicity)?
8. What are some resources and services outside of Metropolitan University that you think helped you interact successfully with people from other cultures (e.g. nationality, ethnicity)?
9. What do you feel university administrators and professors should know and do to create experiences that foster cultural competence at Metropolitan University?

**Questions/Prompts for Focus Groups**

Questions/Prompts for Focus Group 1 (MAP Participants)

1. It seems that the fact that GSU offers a variety of cultural competency activities, with the Office of Multicultural Affairs as the largest example, was a common theme in each of your individual interviews. Talk to me about why you think this is the case.
2. It seems that dealing with your own closed mindedness, the closed-mindedness of others and communication issues between cultures were common themes in each of your individual interviews. Talk to me about why you think this is the case.
3. It seems that conflict based on race and how it is perceived was a common theme in each of your individual interviews. Talk to me about why you think this is the case.
4. It seems that lack of exposure and insensitivity to other classes was a common theme in each of your individual interviews. Talk to me about why you think this is the case.
5. It seems that insensitivity towards religious people and oppression within religions were common themes in each of your individual interviews. Talk to me about why you think this is the case.
6. It seems that effective communication and acceptance and openness between cultures was a common theme in each of your individual interviews. Talk to me about why you think this is the case.
7. It seems that finding common ground and understanding was a common theme in each of your individual interviews. Talk to me about why you think this is the case.
8. How has the Office of Multicultural Affairs helped foster cultural competence for you at Metropolitan University?
9. How can workshops and trainings for professors on open-minded thinking and cultural competency help foster cultural competence for you at Metropolitan University?
10. What roles have the internet, social media, and friendship played in helping you successfully interact with people from other cultures?
11. Talk to me about how your experiences have all been similar...
12. Talk to me about anything that has been shared that seems strikingly different to you…
13. What advice would you give to other students about how they can successfully engage in cultural competency activities at a metropolitan university?

Questions/Prompts for Focus Group 2 (Non-MAP Participants)

1. It seems that the fact that GSU offers a variety of cultural competency activities, with the Office of Multicultural Affairs as the largest example, was a common theme in each of your individual interviews. Talk to me about why you think this is the case.
2. It seems that being sensitive to different people, and wanting others to feel like you can relate to them and respect them were common themes in each of your individual interviews. Talk to me about why you think this is the case.
3. It seems that communicating with people who are unaware of their privilege, and convincing people to see the value in engaging in cultural competence activities and advocacy were common themes in each of your individual interviews. Talk to me about why you think this is the case.
4. It seems that stereotypes and judgments around race, gender, sexuality, faith, or socioeconomic class were common themes in each of your individual interviews. Talk to me about why you think this is the case.
5. It seems that insensitivity towards religious people and oppression within religions were common themes in each of your individual interviews. Talk to me about why you think this is the case.
6. It seems that a common theme in each of your individual interviews was that the experience of being in a racial, gender, sexuality, or faith minority has made you stronger and more motivated. Talk to me about why you think this is the case.
7. It seems that a common theme in each of your individual interviews was that you can see areas and aspects of your identity where you are privileged while also aware of other areas where you are not. Talk to me about why you think this is the case.
8. It seems that a lack of effort by professors to get trained in cultural competence and practice it consistently in the classroom were common themes in each of your individual interviews. Talk to me about why you think this is the case.
9. How has the Office of Multicultural Affairs helped foster cultural competence for you at Metropolitan University?
10. What roles have off-campus jobs, off-campus community participation, and off-campus arts and cultural activities played in helping you successfully interact with people from other cultures?
11. Talk to me about how your experiences have all been similar...
12. Talk to me about anything that has been shared that seems strikingly different to you…
13. What advice would you give to other students about how they can successfully engage in cultural competency activities at a metropolitan university?

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Original Research

# Effects of Teaching in a Summer STEM Camp on the Mathematics Teaching Self-efficacy of Highly Qualified Preservice Secondary Mathematics Teachers

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## Abstract

Educational opportunity gaps experienced by students of color living in poverty, with accompanying lower levels of mathematics achievement, remain a roadblock to their access to college-level training in STEM fields. To address this problem, secondary teachers must be confident in their ability to share mathematics content effectively with students from cultures different than their own. Bridging the opportunity gap is more likely with two elements in place: intellectually stimulating pre-college experiences and community partnerships that establish connections between underserved neighborhoods and resource-filled environments, such as university campuses.

This study explored the effects of teaching in a four-week STEM summer camp for ethnically diverse, high-needs middle school girls on the teaching self-efficacy of highly-qualified preservice secondary mathematics teachers, a group that has been less studied than preservice elementary teachers. Participants were students in the NebraskaMATH Omaha Noyce Partnership, a federally-funded teacher preparation scholarship program at the University of Nebraska Omaha, an urban, metropolitan university. Teaching self-efficacy was measured by the Mathematics Teaching Efficacy Belief Instrument (MTEBI) and by follow-up qualitative analysis of questionnaire responses and focus groups. Participants' gains on the MTEBI were significant for Personal Mathematics Teaching Efficacy, but not for Mathematics Teaching Outcome Expectancy. Qualitative analyses suggested that both instructional coaching and

everyday interactions in a summer camp setting contributed strongly to the preservice teachers' increased confidence about teaching mathematics to culturally diverse, high-needs learners.

**Keywords:** self-efficacy, secondary mathematics teaching, opportunity gap, teacher education, STEM education

## Introduction

Opportunity gaps in American schooling have emerged as important explanations for disparities in achievement, particularly in mathematics, between students in underserved schools and those who attend schools with many resources. Flores (2007) noted that Latinx, African American, and low-income students are less likely to have the same opportunities to learn in American schools as other students. Among the persistent inequities experienced by these students are less access to experienced and qualified teachers, less exposure to the high expectations of advanced classes in mathematics, and deficits in per student funding. Flores (2007) also observed that when students' ethnic or cultural background differs from that of their teachers, teachers often assume deficits in the students rather than teaching to their strengths, and these low expectations lead to fewer opportunities for learning more challenging and advanced mathematics.

The tendency among American middle and high school teachers to attribute achievement gaps to student characteristics, including motivation levels, work ethic, and family support, rather than to systemic inequities in resources and educational opportunities, has been well documented (Bol & Berry, 2005; Locke, Tabron, & Chambers, 2017; Tabron & Chambers, 2019). But Kotok (2017) found that course tracking and school socioeconomic status played crucial roles in the widening achievement gap in mathematics from 9th to 11th grade between high performing African American and Latinx students and their high performing White and Asian peers. Despite similar test scores in 9th grade, high achieving Asian and White students were 25% and 17%, respectively, more likely than their high achieving African American and Latinx peers to be enrolled in advanced mathematics courses. Smith, Trygstad, and Banilower (2016) observed similar, tracking-related inequalities in educational opportunities for science instruction, noting that students with low prior achievement, when grouped together, have less access to well-prepared teachers, material resources, and high quality instruction. They noted further that in these classes, minority students, particularly African American and Latinx students, are significantly overrepresented.

The persistence of these opportunity gaps, and the lower levels of mathematics achievement that accompany them, reflect a common structure of unequal opportunity for students living in poverty and students of color that remains a serious concern to educators, although The National Council of Teachers of Mathematics has long asserted that:

> Much of what has been typically referred to as the "achievement gap" in mathematics is a function of differential instructional opportunities. Differential access to high-quality teachers, instructional opportunities to learn high-quality mathematics, opportunities to learn grade-level mathematics content, and high expectations for mathematics achievement are the main contributors to differential learning outcomes among individuals and groups of students." (NCTM, 2012)

Among the many suggestions made by researchers to address the opportunity gap, two elements stand out as offering significant benefits to students in underserved schools: intellectually stimulating pre-college experiences and community partnerships that bridge the gap from underserved neighborhoods to empowering, resource-filled environments (Reding et al, 2017). One such experience, the Eureka! STEM summer camp on the campus of an urban, metropolitan university, has been offered to low-income girls in Omaha, Nebraska for the past seven years. The camp includes a broad range of hands-on, experiential STEM learning activities, as well as field trips, fitness activities, and information on college and careers. It is offered by a partnership between the University of Nebraska Omaha and Girls Inc. of Omaha, a nonprofit community organization that provides many educational activities and a strong support system to girls from low-income families.

Like many summer camps, this one offers social, emotional, and physical health benefits to the students who participate. However, it can only address opportunity gaps in mathematics if the people who teach in the program can confidently and effectively offer enriched experiences, high expectations, and a growing sense of familiarity with college environments, so that students can truly envision college, and possible mathematics-related careers, in their future. Thus, the attitudes and beliefs of the people who staff the program are critical, especially those of preservice teachers who are there to gain experience working with underserved students because they intend to teach in underserved schools. College students with this goal are often not members of the same ethnic or cultural group as their future pupils; 79% of American school teachers in 2017-2018 were White, according to the National Center for Educational Statistics. Their training should help them gain the confidence that they can communicate with students who are very different from themselves, and provide those students with high quality, challenging mathematics education.

The question explored in the present study is this: When considering their future teaching performance, are preservice secondary teachers who are highly qualified in mathematics equally confident about their ability to teach it? If not, what kinds of experiences will increase their confidence, especially when they are planning to teach high-needs students from cultural and ethnic backgrounds very different from their own? In a mixed methods study using both

qualitative and quantitative assessments, we explored the effects of teaching in a STEM summer camp for ethnically diverse, high-needs students on the teaching self-efficacy of mathematics scholarship students in a federally-funded teacher scholarship program. Since much of the research literature on mathematics self-efficacy has focused on elementary teacher education, this study addressed the need for more study of secondary teacher preparation.

## Mathematics Teaching Efficacy in Preservice Teachers

The frequent research focus on elementary education majors reflects a well-founded perception that many future elementary teachers struggle with mathematics and are lower in confidence about their ability to teach it, as well as science, than about their ability to teach other subjects (Buss, 2010). Issues explored in these studies include self-efficacy regarding actual performance on mathematics problems, mathematics anxiety, mathematical beliefs, and self-efficacy about teaching mathematics.

Much of this research draws on Bandura's (1986) social cognitive theory, wherein self-efficacy is defined as people's judgments about their capacity to organize and execute a course of action needed to produce a specific performance attainment. It is concerned "not with the skills one has but with the judgments of what one can do with whatever skills one possesses" (Bandura, 1986, p. 391). As noted by Bates, Latham, & Kim (2011), self-efficacy mediates between beliefs and behaviors, so regardless of their actual mathematical ability, students' efforts may be affected by their own judgment of their ability to solve mathematics problems or perform other mathematics tasks.

Assessment of self-efficacy for mathematics teaching is thus a critical aspect of teacher training, since preservice teachers who do not believe they can teach a subject effectively are less likely to persevere in learning to do so. Such assessment forms the basis for many research studies of teachers' beliefs about their ability to teach mathematics. The Mathematics Teaching Efficacy Belief Instrument, or MTEBI (Enochs, Smith, & Huinker, 2000) is often used for this assessment. The instrument is useful because it measures two dimensions of self-efficacy: belief in one's own ability to teach effectively, and belief that effective teaching in general will have a positive effect on student learning. The subscale that measures the first dimension is called Personal Mathematics Teaching Efficacy (PMTE); the subscale for the second dimension is called Mathematics Teaching Outcome Expectancy (MTOE).

Two types of studies have made use of the MTEBI: those that explore relationships among mathematics teaching self-efficacy and other beliefs or attitudes, and those that explore pre- and post- effects of interventions, such as methods courses or field experiences. In the former type of study, a number of interesting relationships have been observed. Bates, Latham, and Kim (2011) found that performance on a mathematics basic skills test was strongly correlated to both

mathematics self-efficacy, as measured by the Mathematics Self-Efficacy Scale, and mathematics teaching efficacy, as measured by the PMTE subscale of the MTEBI. Preservice elementary teachers who felt confident about their ability to solve mathematics tasks were more likely to feel confident about their ability to teach mathematics to children.

Briley (2012) explored the relations among mathematics self-efficacy, mathematics teaching self-efficacy based on the MTEBI, and the level of sophistication of preservice elementary teachers' beliefs about mathematics (e.g., whether it is viewed as a set of isolated facts and procedures or as coherent concepts; whether it is to be memorized or to be understood). Preservice teachers who reported stronger beliefs in their ability to teach mathematics effectively were more likely to hold sophisticated mathematical beliefs. Both mathematical beliefs and mathematics self-efficacy were positive predictors of mathematics teaching self-efficacy, particularly on the PMTE subscale.

With regard to the effects of interventions, Swars, Daane, and Giesen (2006) used the MTEBI to explore the relationship between mathematics anxiety and mathematics teaching self-efficacy among elementary preservice teachers taking a mathematics methods course that included 24 days of clinical experience in elementary schools. Even after the course, where no pretesting was done, they found a significant, moderate negative relationship, such that preservice teachers with the lowest levels of mathematics anxiety had the highest scores on the PMTE subscale.

Other studies, however, have found that supportive experiences in mathematics content courses, methods courses, and field experiences can have positive effects on teaching self-efficacy. Newton, Leonard, Evans and Eastburn (2012) used the MTEBI to explore the relationship between content knowledge and teaching self-efficacy during an elementary mathematics methods course that included field experiences in urban public schools. Throughout the course, they observed a moderate positive relationship between mathematics content knowledge and the PMTE subscale of the MTEBI, as well as increases in both mathematics content knowledge and scores on the PMTE subscale.

In a two-course sequence of elementary mathematics methods and student teaching, Swars, Hart, Smith, Smith, and Tolar (2007) used the MTEBI to explore the relationships among mathematics content knowledge, pedagogical beliefs, and teaching efficacy. Self-efficacy beliefs on the PMTE subscale increased over time in both methods courses and student teaching. Utley, Mosely, and Bryant (2005) also found that preservice elementary teachers' personal self-efficacy for teaching mathematics had increased by the end of their methods courses.

## Mathematics Teaching Efficacy in Preservice Secondary Mathematics Teachers

Concern about elementary teachers' self-efficacy for teaching mathematics is understandable, since elementary teachers with high mathematics anxiety may avoid teaching mathematics in their classrooms or use less sophisticated teaching methods (Karp, 1991; Swars, Daane, & Giesen (2006). Teachers who have high efficacy about teaching mathematics are more likely to use inquiry-based and student-centered teaching methods, thus increasing both student interest and achievement (Swars, Hart, Smith, Smith, & Tolar, 2007).

Fewer studies have explored secondary teachers' self-efficacy for teaching mathematics. One reason for this is that secondary mathematics teachers have chosen the field, whereas elementary teachers, whether they enjoy mathematics or not, are still required to teach it in most elementary schools. If secondary-education students feel uninterested or less than confident about their mathematics knowledge, they can choose another academic discipline and select out of any expectation that they teach mathematics. This being the case, we might assume that those who *choose* to teach mathematics at the secondary level are reasonably confident in their mathematics skills and content knowledge. In general this appears to be true, and such confidence can affect career choices, as noted by Hackett and Betz (1989), who found correlations between mathematical performance, mathematics self-efficacy, and choosing a mathematics-related major in college.

But performing mathematics tasks skillfully is not the same as teaching mathematics. Secondary mathematics teachers, in addition to teaching students who share their enjoyment of the subject, must teach students who are not like themselves, that is, students who do not enjoy it and may have high levels of mathematics anxiety and low levels of background knowledge and achievement. If the teachers are White and middle-class, as many American teachers are, they must also learn how to connect with students whose race, culture, and socioeconomic context differs from their own. Secondary students who have experienced opportunity gaps, including many years of less-than-optimal education in high-poverty environments, may not have received the encouragement to pursue mathematics that their teachers did, and may be unmotivated. Despite these challenges faced by preservice secondary mathematics educators, few studies have explored their self-efficacy for teaching mathematics.

Two explorations with a small sample of new inservice secondary teachers taking a mathematics methods course while teaching for the first time (Evans, 2011a; 2011b) illustrated some interesting relationships. Evans' (2011a) study of 42 Teaching Fellows in a New York City alternative certification program found a positive correlation between attitudes toward mathematics, including confidence, value, enjoyment, and motivation, and the Personal Mathematics Teaching Efficacy subscale of the MTEBI, but not between such attitudes and the Mathematics Teaching Outcome Expectancy subscale. Both content knowledge in mathematics

and attitudes about mathematics improved significantly by the end of the semester, but there was no significant change between pretest and posttest scores on either of the MTEBI scales. Taking a methods class while gaining teaching experience was clearly helpful in some ways, but it did not result in increased self-efficacy for teaching mathematics.

In another analysis of the same sample, Evans (2011b) found that the mathematics and science majors among the teachers had higher mathematics content knowledge than other majors, but content knowledge was not related to either attitudes toward mathematics or teaching self-efficacy, as measured by the MTEBI. Teachers reported high positive attitudes toward mathematics and high teacher self-efficacy, regardless of their content ability. This study used a small convenience sample of teachers in a unique educational environment; they were career-changers recruited to an alternative certification program and had provisional teaching certification while taking graduate courses in education and teaching in their own classrooms (Evans, 2011b). It is interesting that their self-efficacy beliefs on the MTEBI subscales did not change significantly over the course of their first semester teaching, but the uniqueness of their situation makes these findings difficult to generalize.

Teaching self-efficacy was explored in another unique context by Haynes and Stripling (2014), who used the MTEBI to examine the mathematics teaching self-efficacy of agriculture education teachers in Wyoming. Their participants were moderately self-efficacious in both Personal Mathematics Teaching Efficacy (PMTE) and Mathematics Teaching Outcome Expectancies (MTOE). Professional development needs reported by teachers varied based on their self-efficacy, with teachers lower in self-efficacy desiring help with procedural elements such as concepts in common core mathematics and designing lesson plans that utilize agriculture. Teachers higher in self-efficacy wanted professional development in teaching mathematics concepts found in natural resource management and plant science, collaborating with mathematics teachers, and motivating students to learn the mathematics found in the agricultural and natural resources curricula. Higher self-efficacy in these teachers appeared to be associated with teaching at a more advanced level, thus providing students with more challenging experiences.

## Rationale for the Current Study

The studies above (Evans, 2011a; 2011b; Haynes & Stripling, 2014) were completed with inservice teachers; there is a need for more work with preservice secondary teachers, particularly those who are near the beginning of their training. Because of a partnership between the University of Nebraska Omaha and Girls Inc. of Omaha, the teacher education program at this university has been able to provide field experiences for students (both elementary and secondary majors) in (Eureka! STEM, a summer camp for educationally at-risk middle school girls. One group of such students is comprised of Noyce Scholarship recipients. These undergraduate students have been selected for the NebraskaMATH Omaha Noyce Partnership,

an effort funded by the National Science Foundation Robert Noyce Teacher Scholarship Program. They are highly-qualified students in mathematics, are majoring in mathematics and secondary education, and participate in the camp at an early stage in their program. Their mathematics competency has already been demonstrated, but how confident are they about the realities of teaching mathematics to ethnically diverse students who need substantial academic support?

This study explored the effects of teaching in a STEM summer camp with ethnically diverse, high-needs students on preservice secondary mathematics teachers' teaching self-efficacy, as measured by the MTEBI, and also by follow-up qualitative analysis of questionnaire responses and focus groups. The qualitative analysis was designed to expand understanding of the quantitative results, and of the experience as a whole. If the STEM summer camp experience affected teaching self-efficacy, whether positively or negatively, what were the reasons? Which aspects of the program made the greatest difference to the students? The authors were particularly interested in students' reactions to the instructional coaching provided to them throughout the summer camp session.

A number of research studies have been produced in the seven years of the summer STEM camp's operation. In the authors' previous work (Franks, McGlamery, & Van Wyngaarden, 2016; McGlamery, Franks, & Shillingstad, 2016; McGlamery & Franks, 2019), they have observed significant improvements in the science teaching self-efficacy of preservice elementary teachers who completed an intermediate field experience during the summer camp, and have also compared the summer camp experience with regular, classroom-based field experience in terms of science teaching self-efficacy. An earlier study by other researchers (Reding et al., 2017), examined the quantity and strength of relationships between the Eureka! STEM camp participants and student camp leaders who were scholarship recipients and future mathematics teachers. The present study focused on a different sample of these scholarship participants, exploring the effects of the experience on their self-efficacy for teaching mathematics.

## The Summer Camp Field Experience

The summer STEM camp is offered in a city school district in which about 72% of students identify as a racial or ethnic minority. Of these students, 34.9% identify as Hispanic/Latinx, 28% as White, 25.2% as African American, and 5.6% as Asian. The remainder include biracial students and students identifying as Native American and Pacific Islander. In the district, 19% of students are English Language learners and 74% receive free or reduced lunch (Omaha Public Schools).

The four-week summer camp experience introduces at-risk female students, who are rising 7th and 8th graders from low-income families, to STEM education in a positive college setting, with the goal of stimulating their interest in both academic success and possible future careers in

STEM fields. Topics in the camp included robotics, high-altitude ballooning, rocketry, programming and coding, financial literacy, physics, biology, biomechanics, chemistry, engineering and mathematics. The mathematics sessions in the Eureka! STEM camp addressed middle level, 5th through 8th grade, mathematics concepts. Some pre-algebra and algebra concepts were introduced.

In the city school district, students are tested using the Nebraska Student-Centered Assessment System in Mathematics. Three levels of proficiency are determined based on test performance: Developing, On Track, and College and Career Ready (CCR). Proficiency in meeting state standards is calculated based on the scores of students achieving at the On Track and CCR levels. In the 2018-2019 school year, the percentages of students reaching proficiency in mathematics were 48% for White students, 25% for Hispanic/Latinx students, and 17% for African American students (Nebraska Department of Education).

Most camp participants needed additional support in mathematics; on average they demonstrated a one- to two-year achievement gap in comparison with their middle-class peers in the city, a trend that has been observed every year of the seven years the camp has operated. Camp staff introduced more mathematics-based sessions to target important mathematics standards, and reviewed concepts the girls should have learned in upper elementary and middle level mathematics classes.

All of the girls were recruited for the summer camp via a community partner of the teacher education program, Girls Inc. of Omaha, a community support program for girls. Most of the participants were from single parent families with annual incomes below $30,000. The majority were African American, but African (Somali), Latina, and White girls also participated. Girls Inc. of Omaha serves girls ages 5 through 18 years of age. Founded in 1975, it now has two centers in the city, with art rooms, computer labs, and a library, woodshop, sports field, and playground. It serves approximately 1,000 girls each year, providing after-school programming, mentoring, college application assistance, transportation, counseling services, medical services, healthy meals, and computer access. The summer STEM camp is part of a five-year program collaborative offered by Girls Inc. of Omaha and the University of Nebraska Omaha. The first two years focus on the summer camp, and the following years include mentorship and externship experiences with STEM-related organizations and businesses.

## Research Questions

In this study the authors used a mixed methods approach known as the explanatory sequential design, so called because researchers first collect quantitative data and then gather qualitative data to help explain or elaborate on the quantitative results (Creswell & Guetterman, 2019). The quantitative analysis explored this question: how does teaching in a STEM summer camp affect preservice secondary teachers' personal mathematics teaching efficacy beliefs and/or

mathematics teaching outcome expectancy, as measured by the MTEBI? The qualitative inquiry expanded on this question to explore more deeply, via an open-ended questionnaire and a focus group, the aspects of the Eureka! STEM program that were most likely to impact participants' teaching self-efficacy. These aspects included their experiences as instructors in the summer camp, the effects of the instructional coaching they received as they prepared and carried out lessons, and their interactions with students from diverse cultural backgrounds.

## Method

### Participants

Participants in the study were undergraduate students at a medium-sized metropolitan university who had been selected for mathematics scholarships in a federally-funded Teacher Scholarship Program. The program is open to students enrolled in the university's Bachelor of Science in Mathematics/Teacher Preparation program. The grant provides scholarships, research opportunities, internships and mentorship to students pursuing careers as high school mathematics teachers in high-needs schools. Scholarship participants earn both a mathematics degree and secondary teacher certification while developing valuable skills, such as culturally responsive teaching techniques, that will enable them to teach effectively in high-needs schools.

The study participants, known as interns, were all preservice secondary mathematics teachers, enrolled in a summer teaching course for which the Eureka! STEM camp experience served as a field component. The goal in incorporating the interns was to give them teaching experience with diverse populations of youth, and also for them to provide needed support to the instructors who were leading the STEM sessions of the camp. There were 10 interns, including four White males and six females, five of whom were White and one African-American.

### Intern Activities

The interns were assigned to work with an instructor during each STEM session. Since the session contents were all different, efforts were made to pair interns with areas in which they had expressed an interest. Each intern worked in an instructional capacity for five hours per day, four days per week. Friday sessions were field trips to various STEM-focused sites that provided the girls with new and interesting experiences; the interns accompanied the girls on all of their field trips.

Each STEM session was 90 minutes in length. Each intern designed, planned, and taught two 90-minute, all-mathematics sessions, with the assistance of the instructional coach. In addition, the interns worked with presenters in other STEM areas to assist as instructional facilitators and group managers.

### Instructional Coaching and the Intern Experience

During the four-week camp session, the interns were given instructional coaching before they taught, during the teaching process, and after the teaching sessions. The instructional coaching was designed to better assist these novice teachers as they planned and implemented lessons. Because the interns were novice teachers, they needed assistance with planning lessons that were inquiry based and engaging to the girls. The instructional coach met with the interns weekly, and also attended their teaching sessions to observe them and give feedback on their teaching. The meetings were opportunities for discussions about best teaching practices and a chance to plan together the lessons the interns would be teaching. The mathematics instructional coach was a former teacher of mathematics with a PhD in mathematics education, who also worked as an instructional coach of mathematics for a local school district before joining the faculty at the university.

## Quantitative Data Analysis

### Instrument

The Mathematics Teaching Efficacy Belief Instrument (MTEBI) (Enochs, Smith, & Huinker, 2000) was used to assess the interns' self-efficacy regarding mathematics teaching. This instrument measures two subscales, Personal Mathematics Teaching Efficacy Belief (PMTE) (13 items), and Mathematics Teaching Outcome Expectancy (MTOE) (8 items). Participants' beliefs are rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Each subscale contains both forward-phrased ("I will continually find better ways to teach mathematics") and reverse-phrased ("I will not be very effective in monitoring mathematics activities") items.

### Procedure

The MTEBI was administered to the interns at the first organizational meeting, one week before the camp was to begin. The posttest administration of the MTEBI occurred at the last meeting of the interns, during the last week of the summer camp.

### Results for Quantitative Analysis

Paired samples *t* tests were used to evaluate differences between pretest and posttest scores for the two subscales of the MTEBI, Mathematics Teaching Outcome Expectancy (MTOE) and Personal Mathematics Teaching Efficacy (PMTE). Table 1 illustrates the results observed for the two subscales.

On the MTOE subscale, the difference between pretest and posttest scores was not significant, $t$ (9) = 1.64, p = .14. An average difference of 1.9 points between pretest and posttest scores was observed. On the PMTE subscale, the difference between pretest and posttest scores was significant, $t$ (9) = 3.99, p = .003. An average difference of 5.1 points between pretest and posttest scores was observed (Table 1). Using an $Eta^2$ formula for a paired samples $t$ test, a large effect size of .23 was obtained for the MTOE subscale and an even larger effect size of .63 was obtained for the PMTE subscale (Cohen, 1988).

***Table 1.*** Paired samples t-tests with pretest and posttest scores on Mathematics Teaching Outcome Expectancy and Personal Mathematics Teaching Efficacy subscales of the MTEBI, Interns Summer Camp Sample

| | | Interns, Summer Program | | | | |
|---|---|---|---|---|---|---|
| Subscale | N | Mean, SD Pre | Mean, SD Post | $t$(9) | $p$ | Effect size* |
| MTOE | 10 | 30.8 (2.44) | 32.7 (3.16) | 1.64 | .14 | .23 |
| PMTE | 10 | 53.4 (4.25) | 58.5 (4.71) | 3.99 | .003 | .63 |

*MTOE scores out of 40 possible; PMTE scores out of 65 possible. *$Eta^2$ values: .01 = small effect, .06 = moderate effect, .14 = large effect (Cohen, 1988)*

## Qualitative Data Analysis

### Procedure

The qualitative data was collected via a written survey with open-ended questions, as well as oral responses in the context of focus group interactions. The written responses collected on the questionnaire were used as a beginning point for further conversation with the interns. The questionnaire was given to the interns during their second to last meeting with their instructional coach. The focus group occurred at the final meeting with the instructional coach. All 10 interns responded to the questionnaire and participated in the focus group discussions. The written questionnaire included the following questions:

**Questions about the Eureka! STEM Camp Experience:**

1. What about the Camp did you like best?
2. What aspects of the Camp most interested you?
3. Were there aspects of the Camp that you did not expect?

**Questions about the Coaching Experience:**

1. What about the instructional coaching did you find useful?
2. What aspects of the instructional coaching did you find least useful?

**Questions about Teaching Students:**

1. What challenges did you have working with the girls?
2. What successes did you have working with the girls?

## Qualitative Analysis

The qualitative data was collected in two ways. First, the written questionnaire was administered, and based on the responses to the questionnaire, possible follow-up questions were planned to be asked during the face-to-face focus group session.

The questionnaire responses were sorted and coded for common themes, using the constant-comparative method described by Bogdan & Biklen (2007). In this method, researchers look for key issues, words, or phrases in data that become coding categories. They compare incidents in the data to other incidents, incidents to categories, and categories to other categories (Creswell & Guetterman, 2019). They examine the coding categories for overlap or redundancy, then collapse them into broad themes.

The focus group setting allowed the interns to clarify and provide more detail about their written responses. The focus group data was recorded as field notes and meeting minutes by the author and the instructional coach. These notes were also coded, with the goal of identifying additional themes and confirming themes identified from the written responses. The coding process, including both the written surveys and the focus group, identified the following themes:

- Lack of experience with a diverse population of students
- Class differences (interns mostly came from middle-class families; students were from families living in poverty).
- Challenges related to the age of the students, such as selecting developmentally appropriate mathematics lessons.
- Emotions surrounding the experience, such as anxiety, feeling overwhelmed
- Developing a relationship with the students in the camp
- Learning to gain the students' trust
- Helping the students take risks to try new mathematics activities, particularly those that were challenging
- Challenges related to interns' newness to teacher preparation
- Benefits of coaching
- Feelings of anxiety relieved by support from the instructional coach
- Sense of improvement in their own teaching skills
- Usefulness of the camp experience as part of their preparation to teach mathematics

## Results

The themes identified and confirmed by the questionnaire and the focus group session formed the basis for the assertions below. Quotations from the participants are used to support the assertions and provide the reader with the perspective of the study participants.

### Assertion One

The biggest challenge to the efficacy of the interns was working with such a diverse population of students. Because the interns were in the beginning of their teacher preparation, they lacked experience and confidence to tackle the teaching challenges they faced during the summer camp. They struggled initially with gaining the students' trust and developing relationships with girls whose family situations were mostly very different from their own.

> **Intern #4**: "Learning to relate to the girls and establish a working relationship was the challenge for me. The question up front was, how do I gain the girls' trust? How do I get the girls to follow my instructional lead? Many of the girls struggled with math and needed to feel comfortable with the instructor in order to try. Being able to establish trust and lead the girls to take risks and try really was exciting to experience."

> **Intern #9**: "I was surprised to see how different the girls were at first. I don't know what I expected. They seemed so young and I had no idea how to start to get to know them."

> **Intern #10**: "The diversity was hard to deal with, where do I begin? What type of teaching will we be doing? Do I even know what level of math to consider teaching? Do the girls even like math? All these questions, it was hard not to panic."

### Assertion Two

Interns reported that the opportunity to work with diverse learners was helpful in developing efficacy in teaching mathematics. However, the initial orientation to the setting was anxiety producing. All but two of the interns had not worked with such diverse learners. The girls participating in the camp were from diverse backgrounds, and the interns reported that middle level students were a new experience for all but two of them. Additional issues centered on concerns about classroom management and how to best engage the girls in learning. Learning levels and how to select developmentally appropriate math lessons were foremost in the minds of the interns.

**Intern #2**: "Middle level students were new to me. I have only worked with college students. The behaviors and the needs of middle level girls seemed to offer some challenges I didn't know how to address. The overall experience with the diversity was good, just overwhelming at first."

**Intern #4**: "Wow, the girls were great, once I got into the sessions and had a chance to work one on one with them. It certainly was a matter of getting to know the students and establishing trust with the students. The math sessions helped me see the need for experience with diverse learners. Coach J was right about being prepared to meet the learners where they are. Yes, it helped me feel confident in my ability to teach math."

**Intern #5**: "The big question for me was where do we begin to teach math to such a varied group of students? It was so cool to have the opportunity to go from not knowing how to grab onto this, to being able to do two major teaching sessions and have it all come together. Working as a team with other interns and the instructional coach was really good. It gave me more confidence to try things and explore new ways of teaching."

## Assertion Three

Interns reported that the coaching experience was very useful in helping them achieve greater efficacy in teaching mathematics. The coach assisted with the planning of the mathematics lessons taught by the interns and helped the teacher candidates to reflect on the teaching experiences after the lessons concluded. A particular challenge was helping the girls, who did not have strong mathematics skills, learn to take risks and try new mathematics activities. In this, the coach modeled assessing what the girls did know and adapting activities to be more user friendly for them. All the interns found the coaching experience to be the most useful aspect of working in the camp.

**Intern #1**: "Many of the girls we worked with were behind in their math skills. It was very important to have math lessons that fit the level of the student. If the lesson is too hard the girls tend to just give up and stop trying. The trick is to have the right level and degree of difficulty to engage the students and not frustrate them. The coach really helped us here. Learning how to help the girls feel comfortable to keep trying and not give up; that was the most useful to me."

**Intern #3**: "I found the instructional coach to be the most useful aspect of the camp experience. She was very helpful and gave us such good ideas and pointers. The opportunity to plan with her made the lessons run so much more smoothly. I

> really had no idea how to plan for what we were trying to do…without the coach the lessons would not have been on target. I had never taught real kids, I didn't know where to start."
>
> **Intern # 5**: "Maybe I had worked with some small groups of students in tutoring sessions, but nothing like the Eureka! STEM Camp. This was hands on teaching with real kids. All different, very diverse groups of girls. The issue for me was how to relate? How do I get to know the girls? What do I talk about? The instructional coach was great. She helped us with all kinds of teaching strategies and ice breaker activities to get a feel for the students."
>
> **Intern # 7**: "For me it was all about the coaching in the process of teaching math or any other subject. The sessions we helped with were assigned. The coach attended the sessions and observed us working with the girls. After the sessions, she would debrief with us about how the sessions had gone. We had time to ask questions and discuss anything we wanted to talk about."

### Assertion Four

The need for experience in teaching and the support to try new strategies was very useful to the interns. It was emphasized by the interns that having help with the selection of the teaching strategies and the implementation was critical to developing efficacy about teaching mathematics.

> **Intern #10**: "The lack of experience teaching real kids math or anything else for that matter…really made it hard at first to pick or plan good lessons. The coaching was very important to me. It made it much easier to see myself being successful."
>
> **Intern #1**: "I needed help selecting the lessons and working with curriculum materials. How do you find activities to teach the math concepts in a way that is both engaging and allows the girls opportunity to problem solve? This was for me the big challenge."
>
> **Intern #2**: "Most of us came into the (Camp name) experience with limited exposure to teaching. We all felt overwhelmed at first. The girls we were working with were not like what I had experience with in my own school back home. Even with all the stress, I would do it again. The learning curve was steep, but the rewards outweighed the stress."

## Discussion

### Implications

There is limited research about the mathematics teaching self-efficacy of preservice secondary teachers, especially compared with the literature about preservice elementary teachers. This study illustrates the need for more. It is relevant to teacher training programs, particularly those at metropolitan universities, but also for any program where students are interested in teaching at high-needs schools.

The authors found that preservice secondary teachers, even though they have high mathematics skills, still feel anxious and unprepared to actually teach mathematics to real students. This is especially true when those students come from underserved populations and different cultural backgrounds from the preservice teachers.

Two elements of the study offer contributions to the understanding of teaching self-efficacy in preservice teachers. One was exploring issues with secondary mathematics teachers previously explored with elementary science teachers (Franks, McGlamery, & Van Wyngaarden, 2016; McGlamery, Franks, & Shillingstad, 2016). As with those studies, it was found that the summer camp experience resulted in significant improvements in teaching self-efficacy. Another contribution was utilizing qualitative methods to discover more about what specific experiences meant the most to preservice teachers, and had the most effect on their self-efficacy. Among those experiences, the supervision and support of an instructional coach ranked highly, as did the opportunity to work with ethnically and culturally diverse students.

### Limitations and Future Studies

One obvious limitation of this study is the small sample size. Another is the fact that all the interns were scholarship recipients and, therefore, high achieving students in mathematics. Future studies should explore the self-efficacy of a broader range of preservice secondary mathematics teachers. This would have to be done during a regular school semester, however, since the summer camp could not be staffed by many more people.

In both the summer camp and in a classroom-based field experience, the authors found positive effects on science teaching self-efficacy, as measured by the Science Teaching Efficacy Beliefs Instrument, or STEBI (Enochs & Riggs, 1990), in preservice elementary science teachers (Franks, McGlamery, & Van Wyngaarden, 2016; McGlamery, Franks, & Shillingstad, 2016; McGlamery & Franks, 2019). The next step is to assess teaching self-efficacy with preservice secondary teachers in both mathematics and science during a regular school semester. This study

provided a deeper exploration by using qualitative methods; those, too, should be utilized with classroom-based field experiences.

### The Importance of Community Partnerships in Teacher Education Programs

Our metropolitan university has a long history of service learning and community partnerships (Schumaker & Woods, 2001; Woods, Reed, & Smith-Howell, 2016), particularly with regard to STEM education (Grandgennett et al., 2015). This study illustrates that such partnerships can enhance teacher training when field placements include community-based organizations other than schools. As McDonald et al. (2011) observed, such placements "afforded preservice teachers new ways of seeing and understanding children beyond school and across difference." They build connections between prospective teachers and community organizations, helping them to develop a holistic and assets-based view of children and youth.

The interns in this study experienced the connections made in a community partnership between a service/mentoring organization for girls and their own metropolitan university. A significant benefit of the partnership in this case was the opportunity for informal interactions between middle-class education students and the underserved students they will be teaching in the future. Spending full days with their students in a summer camp setting, including field trips and social activities, allowed the interns to stretch their interpersonal skills, and raised their awareness of the need for developmentally appropriate lessons. It allowed them to teach students from three very distinct cultural groups (Latinx, Somali, and African American) in the city. Because most of them came from White, middle-class families, but wished to teach in the city's ethnically diverse public school district, this early experience with students from different cultures was invaluable.

Education students ultimately have many opportunities to go out into their communities because they have field experiences in different schools throughout their training. In the case of the summer camp, an important community connection was bringing the girls to the campus. For some, it was their first time being on a college campus, so preservice teachers were able not only to teach them, but also to serve as role models, inviting the girls to see themselves in the role of college student in the future.

## Conclusion

This study describes a unique program that addresses the opportunity gaps experienced by high-needs students by providing both pre-college experiences and community partnerships (Reding et al., 2017. Such programs benefit both student participants and preservice teachers because of the demand for STEM teachers in high-needs educational environments. If teacher education programs are to be successful in training teachers who can be effective mathematics educators in high-needs schools, those preservice teachers need support, and that support should begin early

in their teacher preparation. Even though the Eureka! STEM Camp lasted for only four weeks, it gave these preservice teachers both a real-life experience with a culturally diverse group of students, and the support to improve their self-efficacy for teaching the students who will need them most.

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Original Research

# Third Space Creates Collaborative Environments to Develop Pre-Service Teachers

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## Abstract

In the fall of 2012, 11% (n=157) of clinical practice (i.e. student teaching) candidates at a metropolitan university were in jeopardy of not passing clinical practice. Public schools in the area began to voice their concerns, and placements of candidates became a challenge. As a result, the university re-envisioned the program, utilizing third space to facilitate discourse between local school districts and university faculty. The development of third space was based on program data, which led to the following shifts in the program: scaffolded coursework with increased time in the field; instructional coaching prior to clinical practice; and a system for collecting feedback to sustain partnerships. Collaboration between P-12 schools and the university was essential in preparing candidates to connect theory and apply it in practice. By spring 2016, the initiatives implemented led to a 12% decrease of candidates in jeopardy of not passing clinical practice. As the teacher preparation program continues to grow, one of the biggest challenges is continuing to build and sustain new partnerships. The authors provide a framework for how programs could adapt some of these initiatives to develop and sustain university and school partnerships.

**Keywords:** third space, teacher preparation, field-based experience, clinical practice

## Introduction

Today, as higher education works to align programs to state and Interstate Teacher Assessment and Support Consortium (InTASC) standards, teacher preparation programs and state licensing facilities are making significant changes to how they assess pre-service teacher candidates' preparedness to enter the teaching field. The new standards require pre-service teachers to

demonstrate that they acquired the knowledge, skills, and dispositions to be effective teachers by providing evidence of their learning (i.e. portfolios, videotapes of teaching, reflections on performance, analyses of students' work, tests of pedagogical and content knowledge). Boyd et al. (2008) advocated for a full year of student teaching. While implementing a full year of clinical practice (i.e. student teaching) is not possible for most teacher preparation programs due to a strain on resources, Boyd et al. (2008) also supported well-supervised, extended time in the field with alignment between theory and practice, which they suggested produced more effective candidates for the field of teaching.

DeAngelis, Wall, and Che (2013) found that candidates who were satisfied with their pre-service teacher preparation were more likely to stay at their current school (and in education, in general) than those who were not satisfied. Given the current pressure for educational reform, the need for preparing and retaining highly-qualified teachers, and the implementation of new standards in higher education, a way to bridge theory and practice for teaching candidates is through well-developed and supported field experiences. Field experiences create a holistic approach for learning the art of teaching. Strong preparation programs provide teacher candidates with field experiences that integrate theory and pedagogy and provide candidates with opportunities to develop their understanding through focused inquiry, observation, and guided practice (Hollins, 2011). Ronfeldt et al. (2014) found that teachers who engage in coursework aligned with opportunities to practice teaching in authentic environments are better prepared for the realities of the classroom and more likely to remain in the profession.

This paper expands upon data collected at a midwestern metropolitan university from 2012-2015 (Wilcoxen et al., 2015) to further illustrate how one teacher preparation program strengthened the connection between university coursework and school field experiences. The authors utilized program data to re-envision the development of third space in field-based teacher preparation and outline steps taken to align the goals of the teacher preparation program and community partners to support candidates in field-based experiences and completion of clinical practice.

## Literature Review

### Field-Based Teacher Preparation

Pre-service teachers bring their own perceptions and experiences to the classroom. These perceptions can lead to a disconnect in a candidate's understanding of the complexities of the classroom. Teacher preparation programs have been criticized for the lack of connection between what is learned in university-based coursework and its application in authentic school settings (Clarke & Winslade, 2019; Darling-Hammond, 2009; NCATE, 2010), therefore candidates need support in gaining the knowledge, skills, and dispositions to be effective teachers.

Field experiences bridge the disconnect between theory and practice (Hammerness & Kennedy, 2019). Here, candidates are exposed to a variety of instructional strategies, the engagement each draws, and the impact of assessment. Furthermore, P-12 practitioners are highly influential during fieldwork (Orland-Barak & Wang, 2020; Ronfeldt et al., 2018). In the last ten years, teacher preparation programs have pivoted to increase the amount of time candidates are spending in field-based experiences (Lee, 2018), yet candidates are often left to observe teaching while P-12 practitioners are provided little direction or support from the university (AACTE, 2018).

The effectiveness of the experience is relational to the collaboration, support, and expertise of the P-12 practitioner and placement itself (Torrez & Krebs, 2012). Prospective teachers need opportunities to not only observe in classrooms, but to engage in authentic teaching experiences that allow them to implement instruction and reflect on their practice (Clarke & Winslade, 2019). Early experiences coupled with support and timely feedback can help candidates grow their confidence. Furthermore, effective clinical partnerships that pair academic coursework with field-based experiences "assure that pedagogy and effective practices are learned, refined, and mastered by aspiring educators under the guidance of skilled experts" (AACTE, 2018, p.44). To aid in the communication between university faculty and P-12 schools, a collaborative space with representatives from all parties needs to be established to create a shared vision and goals to support candidates as they learn and apply the art and science of teaching.

## Defining Third Space

The conceptual framework for this study rests in the concept of third space. The concept of third space has been used in multiple fields. According to Sailors and Hoffman (2019), "Hybrid spaces bridge the gap between academic coursework and traditional practicum experiences so beginning teachers can be more innovative in their practices thus transforming education" (p. 125). For the purpose of this paper, the authors refer to this hybrid space as third space.

Third space refers to the practice of bringing pre-service teachers, P-12 partners, and university faculty together to create learning opportunities. This can be difficult. Goodlad (1993) acknowledged difficulties in reaching symbiosis in collaborative partnerships as well as the cultural differences between the university and P-12 environment. This is only compounded by each system having its own vocabulary and accreditation requirements.

Consider the relationship, conversations, and learning between the pre-service teacher and the mentor teacher as one distinct space. In this space, guidance is fueled by the standards and needs of the P-12 classroom. The relationship, conversations, and learning between the pre-service teacher and the university are a second distinct space. In this second space, guidance is grounded in the needs of the university. Both are necessary, and the space between these two distinct

spaces, the theoretical third space, is extremely complex; the pre-service teacher is quite literally caught in the middle between the university and the P-12 classroom. Successful conditions and navigation of the third space environment are critical for pre-service teacher's success during clinical practice. The ultimate goal is to bridge theory learned in university coursework with practices in a live classroom (Zeichner, 2010).

Collaborative models, such as third space, facilitate the dialogue necessary to support students. Abbott and McNight (2010) highlighted the impact of collaboration between educators by indicating three positive outcomes: more accurate identification of student needs and instructional strategies; greater communication across grade levels and content areas; and an increase in job satisfaction and teacher retention. Opportunities in the field expose candidates to the varied cultural, linguistic, and socioeconomic contexts that help pre-service teachers develop their own cultural competence and culturally responsive teaching abilities (Zeichner, 2012).

## Context

The midwestern metropolitan university described in this paper serves 15,000 students campus wide, and two out of every three educators in the metropolitan area hold a degree from the university. Given the size of the teacher preparation program, over 1,000 pre-service teachers are placed in field-based experiences each year. The university's connection to area schools and development of successful teachers is vital to the community. Recent changes to the state accreditation requirements made field-based experiences a central component of teacher preparation. Community partnerships are essential in helping candidates obtain the 100 hours of practicum needed for certification in addition to completing 14 weeks of clinical practice.

## The Challenge

Between fall 2012 and 2013, the university saw an increase in clinical practice (i.e. student teaching) candidates in jeopardy of failing clinical practice. The percentage grew from 11% (of 157) in fall 2012 to 14% (of 142) in fall 2013. Challenges derived from an overall lack of classroom experience prior to clinical practice. Candidates did not understand the ebb and flow of a school day and struggled to apply even basic lesson plans. The lack of practice applying what they had learned from their university coursework in authentic school contexts negatively impacted all aspects of the classroom, including student learning. As shown in Table 1, this led to a decreased acceptance of P-12 placement requests and added tension to partnerships.

***Table 1.*** Candidates in jeopardy of failing clinical practice

| Year | Total number of Clinical Practice Candidates | Total Number of Candidates in Jeopardy | Percent in Jeopardy |
|---|---|---|---|
| Fall 2012 | 157 | 17 | 11% |
| Spring 2013 | 192 | 21 | 10% |
| Fall 2013 | 142 | 20 | 14% |

## Potential Consequences

University supervisors and mentor teachers expressed concerns about candidates in jeopardy of unsuccessfully completing clinical practice. At-risk candidates required extensive support and resources; therefore, each candidate at risk was assigned an intervention team. This team consisted of the teacher candidate, mentor teacher(s), the university supervisor, a clinical practice liaison, the university field experience director, and the school building administrator.

Each member of the team played an important role in providing support to the pre-service teacher. Together, the team implemented assistance plans and narrowed support by focusing on three to five indicators from the summative assessment. Team members worked closely to implement the assistance plan and monitor progress with weekly progress checks. Additional observations and coaching support were provided based on candidate needs. The entire team met weekly for progress-monitoring discussions.

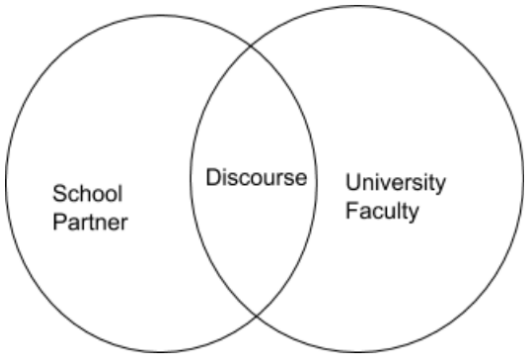
As the number of candidates needing assistance plans grew, management of these plans became difficult. The increased need for support required an extensive amount of time and resources; consequently, the teacher preparation program developed plans to take a proactive approach to field experiences leading up to clinical practice. As a result, the university redesigned the program and grounded efforts in collaboration with school districts to find common solutions that benefited all.

## Description of Third Space in Teacher Preparation

Creating partnerships between teacher preparation programs and local schools has been at the forefront of conversations to redesign teacher education for the past two decades (Beck, 2020; Hollins, 2011; Moore & Sampson, 2008). Universities have been criticized for the lack of collaboration between schools, mentor teachers, and university faculty. Furthermore, university

faculty are criticized for not connecting coursework to the realities of the classroom. Many researchers refer to this as the theory-practice divide (Darling-Hammond, 2005; Klein et al., 2013; Zeichner, 2010) or two-worlds pitfall (Braaten, 2019; Feiman-Nemser & Buchmann, 1985). As previously outlined, third space refers to a hybrid space that brings two separate domains together through discourse and collaboration with the intent to address challenges and construct new knowledge (Klein et al., 2010; Zeichner, 2010). In teacher preparation, third space environments create a structure to support pre-service teachers with quality observations conducted by university instructors and coaches, opportunities for reflective practice, and emphasis on P-12 student needs.

***Figure 1.*** Third Space and Discourse




P-12 schools and the university engaged in discourse and collaboration as part of third space to address the challenges candidates experienced in clinical practice and renew the partnerships with local school districts. Monthly meetings between the university and a group of human resource representatives from 12 area school districts, along with two educational service units, allowed for discourse. The platform provided space for rich discussion among partners to co-create desired outcomes of the experience for all parties involved (i.e. teacher candidates, mentor teachers, administrators, university faculty). This led to the development of a scope and sequence with clear goals, aligned field experiences, and strengthened partnerships with local schools. Discourse within the third space led to innovative solutions with three outcomes to implement: scaffolded coursework with increased time in the field; instructional coaching prior to clinical practice; and a system for collecting feedback to sustain partnerships.

## Analysis

Researchers used program data and qualitative feedback from the mentor teachers and teacher candidates participating in field-based experiences to evaluate the impact, if any, the initiatives derived from third space had on teacher candidates' preparation.

As mentioned previously, in fall 2012, 11% (of 157) clinical practice candidates were in jeopardy of unsuccessfully completing clinical practice. In spring 2013, 10% (of 192) candidates were in jeopardy, and in fall 2013, the candidates in jeopardy jumped to 14% (of 142). With the changes made to the program in creating a productive third space, there has been a change in the number of candidates in jeopardy of unsuccessfully completing their program. After only one semester of implementation, the number of candidates dropped to 5%, then to 4%. By spring 2016, the first cohort of candidates to complete the program with the strengthened partnerships, increased field, and instructional coaching support saw a 12% decrease in the amount of candidates at risk for unsuccessfully completing clinical practice, as shown in Table 2.

***Table 2.*** Candidates in jeopardy of failing clinical practice after the implementation of instructional coaching

| Year | Total number of Clinical Practice Candidates | Total Number of Candidates in Jeopardy | Percent in Jeopardy |
|---|---|---|---|
| Spring 2014 | 159 | 8 | 5% |
| Fall 2014 | 159 | 7 | 4% |
| Spring 2015 | 128 | 6 | 5% |
| Fall 2015 | 145 | 7 | 5% |
| Spring 2016 | 138 | 3 | 2% |
| Fall 2016 | 70 | 3 | 4% |
| Spring 2017 | 107 | 6 | 6% |
| Fall 2017 | 59 | 6 | 10% |
| Spring 2018 | 128 | 8 | 6% |
| Fall 2018 | 58 | 2 | 3% |
| Spring 2019 | 118 | 8 | 7% |

It is important to note in fall 2017 funding changed, and graduate assistants (GA) were hired and joined the remaining two full-time instructional coaches. The following year, as enrollment increased, additional GAs were hired. To fulfill this role, GAs must have five years of P-12 teaching experiences and hold a current teaching certificate. Recent experience working in schools ensures that the coaching support GAs provide to teacher candidates reflects current issues and trends in education. Hiring GAs also allowed for maximized support in the field as coaching hours could be shifted to times of the day with the highest need since there were more people able to provide feedback.

Even with the decrease in full-time coaches and shift to graduate assistants, overall, the data shows a decrease in need for additional support at clinical practice. The increased time spent in the field with the support of instructional coaches improved the average pass rate to 97%.

Increased Time in Field and Instructional Coaching: The Impact on Third Space

With the implementation of additional field time and instructional coaching support, candidates were provided multiple supported opportunities to connect theory to practice. These experiences allowed candidates to apply their learning within a classroom setting. University faculty tied 30% of the course grade to performance in the field to ensure the complexities of teaching at one level were met before continuing to the next. The performance assessment at each level was scaled back from the one used at clinical practice, so the language and expectations stayed consistent and candidates were able to show improvement on the progressive rubric. Mentor teachers provided input in creating the rubrics as well as evaluating the performance of the candidates using the rubric at the end of each field experience.

Instructional coaches concentrated on providing support in early field experiences. Coaches were present in buildings four days a week throughout the duration of the field experience (i.e. six weeks). Coaches use multiple types of coaching methods including instructional coaching (Knight, 2007) and cognitive coaching (Costa & Garmston, 2015). Both types of coaching are centered on observing the candidates teaching and engaging in reflective conversations that prompt reflection and goal setting. These conversations also provide opportunities for candidates to ask questions or address concerns. Initial challenges with the implementation of instructional coaching were defining the role of the coach and helping candidates understand the coach's non-evaluative role. As candidates progressed through the program, the coach's role was defined more clearly, and coaches became trusted guides.

The consistent presence of instructional coaches and university faculty in the buildings provided more opportunities for continued conversations with partner schools/stakeholders and allowed mentor teachers to have a more consistent voice in the third space. University faculty (e.g.

instructors, instructional coaches) frequently checked in with mentor teachers to monitor candidates' progress and to help address questions or concerns in a timely manner.

## Sustained Partnerships: The Impact on Third Space

The development of the third space opened lines of communication among the university and school partners to create shared goals for supporting teacher candidates. The continuation of conversations with stakeholders prompted changes for continued improvement and longevity of partnerships. Currently, the program partners with over 40 host schools to provide field-based experiences for pre-service teachers prior to clinical practice. The feedback from mentor teachers and teacher candidates reflects positive partnerships formed within the third space, shown in Table 3.

***Table 3.*** Partner Feedback

| Participant | Feedback |
|---|---|
| Mentor Teacher | I had a really great partnership with my practicum students as we were both able to grow from each other's ideas and thoughts! Our teaching practices and my classroom is better as a result of our partnership. |
| Mentor Teacher | The course instructors and instructional coach were available and introduced themselves. I knew I could have visited or asked them about anything that came up. |
| Mentor Teacher | I really enjoy working with UNO teacher candidates. I feel like I am able to learn just as much from them and the experience as they are. I appreciate the partnership. |
| Teacher Candidate | My mentor teacher has the bar set high, so having a conversation with my coach about her perception of things going well did make me feel better about my path so far. |
| Teacher Candidate | The partnership with [the school] was an incredible experience. I would highly recommend working with them again. My mentor teacher went above and beyond to support me as a student. The administration and school counselor were available to encourage us as students but most importantly, they treated us like staff! I can't say enough good things about my experience with [teacher] and the building. |

| | |
|---|---|
| Teacher Candidate | This was my favorite and best practicum because of the support I received from these professors. With the unknown season we are in, they offered so much support to us and always made sure to ask for feedback on what they could do better. They were all so helpful and I felt like I could come to them with questions because they made themselves available. |

## Reflection and Replication

In analyzing program data and qualitative feedback from the mentor teachers and teacher candidates participating in field-based experiences, the authors reflected on the initiatives that aided in the success creating third space and sustaining university and school partnerships. Teacher preparation programs might consider replicating the following practices to increase successful program completion and build partnerships with local schools.

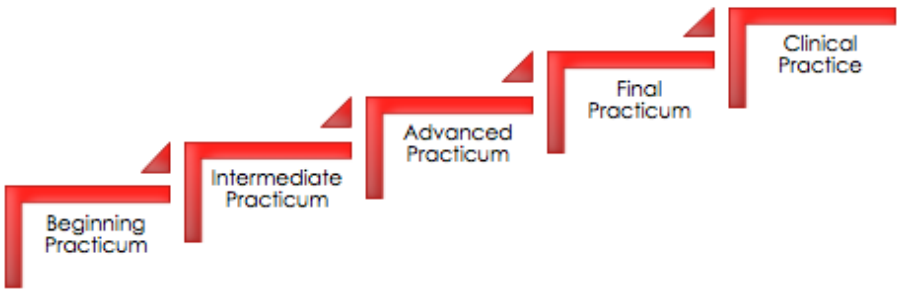
### Increased time in field

In an effort to address the concerns expressed by partner schools and mitigate the number of candidates on assistance plans, the university turned their focus inward and examined the scope and sequence of the teacher preparation program. The Building Relevant, Integrated, Developmentally Guided Experiences for Students (BRIDGES) committee was formed, consisting of faculty representing the elementary and secondary methods courses, Office of Field Experiences personnel, and the Teacher Education department chair. The committee engaged in work to define key learning objectives in each course and audited courses for overlap in content and instructional practice.

As a result, BRIDGES developed a scope and sequence, scaffolding coursework and field-based experiences to build in time and complexity. Courses were blocked together and linked to the field-based experience time, just as a science class to a lab (Figure 2). This allowed for easier registration and placed candidates in the field a minimum of four days a week for three hour blocks of time. In other words, candidates were in the field more frequently for an increased amount of time. Seeing the progression of content in a typical school week helped candidates begin to understand the rhythm of classroom instruction. University faculty developed key assessments, including a field experience rubric which tied 30% of the candidates' overall grades to their field performance. In addition to candidates completing their field experiences in partner

schools during consistent blocks of time, this also allowed for instructional coaches to support candidates in the field. Course instructors and instructional coaches worked together to develop an instructional coaching calendar that allowed faculty to be a constant presence in P-12 buildings during field experiences.

***Figure 2.*** Scope and sequence of field-based experience




## Supporting partners and pre-service candidates: Instructional coaching

To support the need for guided and supervised field experiences, four instructional coaches were hired to work alongside course instructors and collaboratively develop and support experiences for candidates. The term instructional coach is multifaceted. Knight (2007) defined the role as "an onsite professional developer who works collaboratively with teachers, empowering them to incorporate research-based instructional methods into their classrooms in a non-evaluative role" (p. 12). A variety of roles and responsibilities can be assigned to instructional coaches; therefore, coaches do not adhere to a one-size-fits-all model. The model utilized at this metropolitan university allows candidates to learn theory at the university while having opportunities to apply this knowledge in a real-life classroom with the on-site support of an instructional coach.

Instructional coaches facilitate a synergistic environment that focuses on growing professionals through the use of collaboration, collective problem solving, decision-making, research, and reflection. Pre-service teachers complete the field experiences with the support of a P-12 mentor teacher, course instructors, and an instructional coach. Pre-service teachers need to understand why teachers take particular actions; communication needs to be explicit, exploratory, and reflective (Lawley et al., 2012; Zeichner, 2012). The instructional coach serves as a non-evaluative observer of teaching and a thought partner for the candidate to reflect on their teaching, grow in their practice, and meet course learning objectives.

Instructional coaches work closely with course instructors. The coaches attend classes with candidates, model co-teaching, and support candidate development of continuous self-assessment. This collaboration supports the coach in being well versed in the goals of the university which in turn allows them to advocate for pre-service teachers and serve as a liaison between the university and P-12 schools. Furthermore, given their presence within the buildings and the relationships with school partners, instructional coaches witness first-hand the culture of the building and can make concrete connections for candidates to course content. They understand classroom dynamics and can provide differentiated support for pre-service teachers and mentor teachers.

Collaboration in third space is a continual process, and open communication serves as the catalyst for these partnerships to thrive. Instructional coaches play an important role in field-based experiences, as they are an extension of the university and are visible within schools. In addition to supporting pre-service teachers in their learning while in the field, the instructional coach also serves as a resource for P-12 partner schools. The coach works collaboratively with the building administration as well as mentor teachers to ensure that university expectations are implemented and questions or concerns are addressed in a timely manner.

Prior to the field experience beginning, faculty and coaches meet with mentor teachers to share where the course falls in the scope and sequence, to review the objectives of the course, and to provide ideas of what the experience may look like for candidates. At times, mentor teachers may need guidance as to how the candidate can best be utilized. Other times, mentor teachers may need guidance on what the candidates are developmentally able to handle and how to support their development. Coaches are able to address concerns with the candidates, which allows the mentor teacher time to focus on the needs of P-12 students.

## Sustained partnerships

At the conclusion of each field experience, debriefing sessions are scheduled between university faculty and P-12 partners. The purpose of these sessions is to celebrate successes from the semester and also to set future goals. Some of the debriefing sessions occur face-to-face, while others occur virtually. When scheduling the sessions, university faculty and personnel consider the needs and desires of P-12 teachers and accommodate accordingly. The same questions are asked of each partner school, and information is compiled and shared with all stakeholders. The following questions are addressed:

1. What were the positives of the experience?
2. What are your thoughts on the schedule/timing of the practicum experience?
3. Were the expectations for the practicum realistic?
4. What are your thoughts on the field rubric?

5. What can we do to better support you and your students?
6. What might make placements easier for districts/schools (if administration is present)?
7. Do you have any other feedback to improve our program?

The district and school debriefing sessions brought about important conversations regarding logistics of the experiences and best practices. The conversations allowed the P-12 teachers to have a voice in third space. Their insights into what is possible to accomplish in the five-week practicum, the logistics of the experience itself, and feedback on the assessment tool have been invaluable. The debriefing sessions prompted changes in certain field experiences to meet the needs of pre-service candidates, mentor teachers, and P-12 students.

In addition to the debriefing sessions, a survey was developed to ensure that all stakeholders could share their voice (i.e., pre-service teachers, mentor teachers, and building administrators). University instructors and the field experience personnel review the survey data and work directly with each building to make improvements to the experience for the next semester. Faculty cohorts set goals for the upcoming semester based on the feedback. These conversations continue each semester as a means of strengthening partnerships and meeting program goals.

## Implications and Conclusion

Re-envisioning the program and the development of third space has strengthened partnerships with local school districts, allowing placements of approximately 1,000 pre-service candidates in over 40 elementary and secondary schools. Maintaining partnerships every semester allows for all parties to become familiar with the goals of the course, the developmental needs of candidates and P-12 students, and the culture of the building.

Third space offers opportunities to intentionally pair veteran (mentor) teachers with teacher candidates to share their craft and support the teacher candidates' pedagogical practices. Being mindful of the added workload mentoring can place on teachers, it is important consideration is given to not overusing mentor teachers and buildings. Therefore, as programs grow, a challenge they face is continuing to maintain existing partnerships while also forging new ones. The onboarding of new building partners takes time to establish. Beginning with initial conversations with district human resources offices, to meeting with building leaders and mentor teachers, inculcating teacher candidates into the classroom can take a year to establish.

Yet, this hard work pays off as this program experienced in the wake of a global pandemic. Established partnerships allowed for minimal interruptions to practicum experiences. As many educator preparation programs pressed pause on field experiences and moved to the use of video teaching, sustained partnerships allowed the university to pivot with partner schools to provide support in synchronous, asynchronous, and hyflex environments. Furthermore, the relationships

that existed between the school and the university allowed stakeholders to establish response plans and protocols that mirrored each other. Beyond supporting field-based experiences, school districts were able utilize teacher candidates that had met a threshold of practicum hours to help combat the substitute shortage providing teacher candidates with additional opportunities to gain experience.

Elements that have supported developing these partnerships in the teacher preparation program described in this article are the following:

1. **A shared vision:** setting up initial meetings with local schools to create a shared vision for our partnership by outlining goals of the course,
2. **Building orientations:** organizing building orientations for candidates to become part of the school community,
3. **Visibility and accessibility:** supporting candidates and mentor teachers with university faculty presence in buildings, and
4. **Soliciting feedback:** debriefing surveys and conversations with buildings at the conclusion of field experiences to make improvements to the experiences for next semester.

Collaboration in third space between P-12 districts and universities is necessary for candidates to learn, practice, and apply instructional strategies in classrooms. A focused approach nurtures the development of a professional vision (Zeichner, 2012). Increasing conversations and valuing district input leads to a growth model. Without collaboration in a third space, identifying needs, clarifying expectations and supporting all aspects of a field experience, the chasm between universities and PK-12 practitioners will continue to widen.

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Original Research

# Types of Anchor Institution Initiatives: An Overview of University Urban Development Literature

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## Abstract

Interest in universities as anchor institutions within their communities and cities is growing as civic leaders search for ways to build local wealth. Systematic analysis of the effects of anchor institution initiatives remains difficult due to the disparate nature of anchor initiatives and a relative lack of a shared language describing the work. This article reviews the anchor literature to summarize current understandings of universities and economic development, then develops a typology of anchor institution initiatives based upon the literature. The typology is based upon the type of capital leveraged by initiatives: (a) financial, (b) physical, (c) intellectual, and (d) human. The author then uses the typology to categorize a number of initiatives found within the literature and through a rough sampling process. This typology offers a shared language for scholars to use to guide discussions around universities as anchor institutions, and, more importantly, the typology can frame analyses of the differential effects, costs, and benefits of different anchor strategies.

**Keywords:** anchor institutions, community engagement, town-gown, urban universities, urban development

## Introduction

Higher education was originally an urban institution in Europe (Bender, 1988), and though it assumed pastoral ideals in the United States (Geiger, 2016), urbanity is once again a defining feature of modern higher education. Universities, cities, and economic development are closely connected in a complex political economy that shapes university community relations and molds neighborhood change (Etienne, 2012; Wiewel & Perry, 2008). The specific strategies universities can deploy to build community wealth, however, are still not clearly understood. Hodges and Dubb (2012) systematically analyzed several universities to categorize overall approaches to economic engagement and what they termed the anchor mission, but anchor institution initiatives, or the targeted projects universities use to leverage their resources for purposes of development, are still not fully understood within the literature.

The anchor mission, as developed by Hodges and Dubb (2012), called for universities to productively leverage their economic footprints to build local wealth in equitable and sustainable ways. This article builds upon their work by including the concept of anchor institution initiatives, the discrete projects and strategies universities use to carry out an anchor mission. This article aims to provide an overview of the current state of literature on anchor institutions and economic development, after which the author develops a typology of anchor institution initiatives. Similar to Doberneck et al.'s (2010) typology of community engaged scholarship, an anchor institution initiative typology provides a shared language to discuss the merits and costs of different types of anchor work. The typology also allows for richer analyses of economic engagement and the differential effects of anchor institution initiatives on neighborhoods based on the strategy utilized.

In understanding universities as anchor institutions and their effects on neighborhoods, this article reviews the anchor institution literature to identify the known economic effects on local communities of universities, posits causal mechanisms connecting anchor institution initiatives and local development, examines the internal and external pressures on universities to adopt these strategies, and clarifies the types of economic activity by universities that constitute an anchor institution initiative. The author develops four types of strategies universities have used based upon the capital they are investing: (a) financial, (b) physical, (c) intellectual, and (d) human and provides examples of different anchor institution initiatives using these strategies. The strategies are not mutually exclusive; in fact, most initiatives use multiple strategies. Scholars, university leaders, and policymakers can use this typology to frame their own anchor work and find the combination of strategies that work in their context.

## Anchor Institutions and Economic Development

Anchor institutions provide reliable capital locally that can be further leveraged in regional development strategies (Porter, 1997, 2016). Existing studies in economics estimating the effects of universities on local markets generally examine the establishment of new universities. Several studies utilized specific historical circumstances resulting in new postsecondary organizations to identify the effects of universities on local economies. Cantoni and Yuchtman (2014) and Liu (2015) drew from particularly dated eras to understand the role of universities and higher education in the economic development and social organization of Germany and the United States. Cantoni and Yuchtman (2014) drew from data on a uniquely feudal political economic system. Incorporated cities in the Holy Roman Empire required market grants from the emperor or a lord to host a market or festival. Multiple markets or festivals required a corresponding number of grants. The authors used issued-market grants as a proxy for commercial activity and leveraged the papal schism as an exogenous shock in the establishment of universities. Prior to the schism, most German scholars and students were in France. The Catholic church, however, split in 1309 with France, proclaiming allegiance to one wing and the Holy Roman Empire the other. As German scholars and students returned to Germany, the wing to which they were pledged began to relax restrictions on new universities. These coinciding events related directly to the schism resulted in establishing several new universities. Cantoni and Yuchtman (2014) analyzed these data using a difference-in-differences strategy with the establishment of a new university near an incorporated city as the treatment variable and receipt of market grants as the outcome. The authors found approximately 40 new markets were established due to proximity to new universities, reversing a negative trend in market grant receipt. Cantoni and Yuchtman (2014) speculate the causal mechanism is universities trained students in law, bolstering local legal institutions and providing merchants with the human capital necessary to navigate increasingly complex organizations.

Liu (2015) designed a similar study in the United States using an event-study framework. Drawing largely on historical census data, Liu's (2015) identification strategy rests on the exogeneity of decision-making related to the Morrill Act of 1862. The Morrill Act established land-grant universities in every state, and the location of each university often held a degree of randomness. To address any endogeneity in university location, Liu (2015) used a synthetic control rather than a single counterfactual. The establishment of a land-grant university increased local population density by 45% over 80 years. Additionally, though the relative size of the manufacturing sector remained unchanged, manufacturing output increased by 57% per worker. This finding is somewhat contrary to Cantoni and Yuchtman's (2014) result that markets themselves expanded, not just output, but it intuitively follows from arguments that universities foster innovation and productivity enhancements.

In a more contemporary era, Andersson, Quigley, and Wilhelmsson (2009) examined the effects of new universities in Sweden. Leveraging Swedish decentralization of higher education in 1987

that created new universities across the country, Andersson et al. (2009) examined the effect of an increased number of post-graduate researchers and research technicians on local worker productivity and innovations as measured by patents. The authors found new universities increased productivity by approximately 4% per 100 post-graduate researchers and increased patent receipt by 2.3% per 10 research technicians. Approximately half of all productivity gains were located within 3 to 5 miles of the university. This supports Liu's (2015) findings of universities as local productivity-enhancing organizations, a claim largely supported by literature on the spillovers of human capital investments (Moretti, 2004).

Though this article focuses specifically on higher education organizations, the economic effects of other types of anchor institutions offer analogous opportunities for understanding universities as actors in local development. The most commonly cited type of anchor institution other than universities are hospitals (Dubb & Howard, 2012; Hodges & Dubb, 2012). Mandich and Dorfman (2017) studied the relationship between hospitals and local labor markets using individual-level census data and county-level hospital employment data, an analysis focused on wage premiums and job growth. The authors calculated wage premiums using multiple regression, regressing log wage on a dummy indicator of whether the individual was employed at a hospital, individual characteristics, and level of education. Mandich and Dorfman (2017) find hospitals offer high wage premiums for not only doctors but bachelor and associate degree holders as well. The authors also examined the relationship between the number of hospitals and local employment using fixed effects. County employment was regressed on county-level characteristics, the number of hospitals in the county, and year and county-level fixed effects. Job growth in non-health related sectors tended to be higher in areas with hospitals (Mandich & Dorfman, 2017). Lacking a strong identification strategy, Mandich and Dorfman's (2017) estimates should not be interpreted causally, but their results match the anchor literature broadly.

Sports stadiums, though lacking the continuous activity of universities or hospitals, have similar spatial footprints. This distinction results in slightly different impacts on the local economy. Ahlfeldt and Maennig (2009) examined the effects on land values of opening three stadiums in Berlin, Germany. Using block-level data on 376 blocks from 1992 to 2006, the authors isolated the effect using a difference-in-differences method, with treatment being the construction of a stadium. Land value growth increased by approximately 2% following the construction of a stadium (Ahlfeldt & Maennig, 2009). However, evidence on other economic markers is less encouraging. Coates and Depken (2009) examined monthly sales tax revenue in four cities with major college football teams in Texas from 1984 to 2008, combined with information on home games and opponents. Including fixed effects and time trends in the models, Coates and Depken (2009) found no effects on tax revenue of hosting sporting events. Lertwachara and Cochran (2007) use an event study on city-level data to estimate the effect of professional sports teams on income. Again, there was no detectable effect, even with multiple teams. Finally, Miller (2002) used employment data on construction companies in St. Louis for regressions based on lagged

dependent variables. Employment levels did not change based on stadium construction. In summation, though stadiums tend to increase rents and land values, there is no evidence of changes in income, employment rates, or tax revenues.

Military bases also have significant effects on local economies. Zou (2018) examined the effects of military personnel contractions using census data, county-level economic data, and base locations from the Department of Defense. The identification strategy utilized synthetic control groups and instrumented for base personnel contractions. The instrument was composed of the product of the initial personnel-overall population ratio and the nationwide personnel contraction. Zou (2018) found eliminating one military worker costs 0.68 civilian jobs in locally traded industries, but only small effects on industries traded globally. Anchor institutions thus have powerful and complex effects on their local neighborhoods and economies.

### Incentives for Economic Engagement

Though universities and other anchor institutions are not necessarily engaged in activities and initiatives developing their surrounding communities, they face pressure to do such work from various sources. Internally, university officials often support initiating or engaging with existing urban development efforts because they recognize the close connection between the city and the university and their intertwined fates (Dalton, Hajrasouliha, & Riggs, 2018; Maurrasse, 2007). Wittman and Crews (2012) and the Initiative for a Competitive Inner City (2011) described this mutual benefit as shared value, or strategies that improve the competitiveness of an organization while also benefiting local communities. Much concern is relative to local economic development deal with recruiting and retaining students and faculty (Morris et al., 2010; Taylor et al., 2018). Etienne (2012) described in detail the University of Pennsylvania's anxieties of losing its global prominence due to local conditions of poverty and crime. Administrators at the University of Pennsylvania feared high quality faculty would choose to work at other universities solely because of surrounding neighborhoods. Maurrasse (2007) also transcribed a quote from a University of Cincinnati official claiming parents pulled their children from the school after visiting campus. The university began anchor institution initiatives when administrators decided local conditions were affecting admissions.

There are also external pressures for universities to economically engage with their cities. Federal agencies such as the Department of Housing and Urban Development and the Small Business Administration urge universities to adopt development strategies, and the Bayh-Dole Act and Small Business Technology Transfer program highly incentivize universities and researchers to translate their results into marketable products for purposes of regional development (Kochenkova, Grimaldi, & Munari, 2016; O'Shea, Fitzgerald, Chugh, & Allen, 2014). Local governments also exert pressure on universities, though municipalities often lack the strong incentive capabilities of the federal government. Despite taking advantage of municipal services such as utilities and fire and police services, universities are largely exempt

from paying property taxes, leading to tensions between municipalities and universities (Kenyon & Langley, 2010; Maurrasse, 2007). The tax exemption is to partially offset the positive externalities of higher education such as lower healthcare costs for graduates and research with societal implications/applications, but these externalities often benefit geographic areas beyond the municipality losing revenue (Kenyon & Langley, 2010). For example, universities are exempt from paying local property taxes to help subsidize education, but students do not necessarily stay within the same city of the university following graduation, so the city subsidizes a large number of students who do not benefit the city in any way after they leave the university. Thus, many local leaders lobby universities to pay payments in lieu of taxes (PILOTs) or provide other forms of local development aid.

Beyond official governance structures, community activists also pressure universities to take a leading role in urban development (Alperovitz, 2013; Hoyt, 2013; Wolf-Powers, 2010). Community benefits agreements leverage universities to invest in negotiated ways, and civic leaders exert influence as they seek methods to improve living standards. Additionally, foundations and economic development research groups write extensively about the potential of anchor institutions to facilitate local development, arguing for universities to take central roles in urban growth (CEOs for Cities with Living Cities, 2010; Crane et al., 2010; Initiative for a Competitive Inner City, 2011; Morris et al., 2010). The Democracy Collaborative, in particular, is one of the leading organizations pushing for universities to adopt anchor institution missions, convening multiple universities to evaluate and discuss their anchor strategies and partnering with the Coalition of Urban and Metropolitan Universities to disseminate findings (Democracy Collaborative, 2018).

Not all external pressures are supportive of university-led development. Community organizers and residents are often suspicious of university intentions as specific projects are emphasized over others or university investments are inconsistent (Etienne, 2012; Wolf-Power, 2010). The concept of shared value may be built on ideas of mutuality, but it does not specify the differential costs or benefits associated with development. There are also tensions inherent to the transitory student model of higher education. As enrollment grows, more students move to be close to campus and live in off-campus housing. Residents must deal with the noise, higher rents, and traffic of students (Smith, 2008: Smith & Holt, 2007). Conversely, university expansion to accommodate more on-campus housing also meets resistance as people often view universities as greedy, cloistered organizations (Maurrasse, 2007; Rooney & Gittleman, 2003). Such concerns rarely receive more than cursory mentions in literature arguing for anchor institutions as key components of economic growth and urban development.

## Anchor Institution Initiatives

Based upon the literature review presented in this article, the author created a typology of anchor institution initiatives based upon the type of capital universities invest: (a) financial capital, (b) physical capital, (c) intellectual capital, and (d) human capital (Dalton et al., 2018; Maurrasse, 2007; Morris et al., 2010; Walker & East, 2018). Financial capital is a university's cash or endowment. Physical capital is the constructed portions of a university's holdings, generally thought of as the campus (Dalton et al., 2018). Intellectual capital is the knowledge held by university affiliates, generally students, faculty, and staff. Finally, human capital is university investments in local community well-being, such as education and health (Arteaga, 2017; Clark & Martorell, 2014).

Along with developing the capital typology using existing anchor literature, the author used the typology to categorize a number of anchor institution initiatives, collected both through the literature and an additional two-step process. First, the author cross-referenced members of the Coalition of Urban and Metropolitan Universities (CUMU) and the Coalition of Urban Serving Universities (USU) with universities that have received the Carnegie Classification for community engagement or were named to the President's Higher Education Community Service Honor Roll. After identifying universities that were both members of CUMU or USU and had received at least one of the engagement recognitions, the author searched those universities' websites and media outlets for information on any anchor initiatives from 1970 to 2010. This provides a basic overview of the state of anchor work at different universities across the United States, described using the capital typology.

## Financial capital

Universities leverage financial capital through three main types of anchor institution initiatives. First, housing programs aim to improve housing stock and raise the market value of homes in a neighborhood (Appleseed, 2003; Webber & Karlström, 2009). Strong housing markets are generally used to incentivize higher income residents and faculty to live in specific neighborhoods (Etienne, 2012; Maurrasse, 2007). The University of Pennsylvania (Penn) and Syracuse University offer mortgages backed by the university to faculty who live in specific neighborhoods, and both universities also purchased and renovated property for resale within those neighborhoods (Etienne, 2012; Hodges & Dubb, 2012; Wittman & Crews, 2012).

Second, anchor institutions may prioritize local businesses when purchasing goods and services (Hodges & Dubb, 2012; Initiative for a Competitive Inner City, 2011; Webber and Karlström, 2009; Wittman & Crews, 2012). Not only can purchasing have direct impacts on local businesses, housing endowments in local banks can have more indirect effects as local financial institutions gain strength (Dubb & Howard, 2012). Indiana University-Purdue University Indianapolis, Penn, Yale University, and Lemoyne-Owen College all mandate that some percentage of annual purchasing must be local (Hodges & Dubb, 2012). There is some question,

however, about the degree to which economic gains from purchasing are locally sourced growth versus a transfer of jobs from other regions (Appleseed, 2003; Dubb & Howard, 2012).

The final type of anchor institution initiative that utilizes financial capital is establishing and funding community development corporations, or CDCs. CDCs, a non-legal term, are non-profits with goals related to community and economic development of a targeted neighborhood or constituency. There is no comprehensive national tracking of CDCs as it is not an official designation, but the National Alliance of Community Development Associations (NACEDA) reports at least 3,488 CDCs in current existence (NACEDA, 2020). Universities that leverage CDCs for local development generally provide the initial capital for the CDC, then maintain varying degrees of formal connections to the corporation through dual appointments or funding streams. Some university-supported CDCs become increasingly autonomous, while others remain tightly controlled by the university.

***Table 1.*** Initiatives leveraging financial capital.

| University | City | Description |
|---|---|---|
| Case Western Reserve University | Cleveland, OH | • Employer-assisted housing program<br>• Local purchasing |
| Clark University | Worcester, MA | • Purchasing and renovating buildings for resale<br>• Homeownership incentives for faculty/staff |
| Duke University | Durham, NC | • Created a nonprofit that, using loans from Duke, purchases land then resells at cost to affordable housing developers |
| Lemoyne-Owen College | Memphis, TN | • Created a CDC |
| Metropolitan State University | St. Paul, MN | • Local purchasing |
| Ohio State University | Columbus, OH | • Homeownership incentives for faculty/staff<br>• Purchasing and renovating homes for resale |
| Syracuse University | Syracuse, NY | • Local purchasing<br>• Homeownership grants and mortgages |
| University of Arkansas at Little Rock | Little Rock, AR | • Created a CDC |
| University of Cincinnati | Cincinnati, OH | • Created multiple CDCs<br>• Money for local police forces to target certain areas |

| | | |
|---|---|---|
| | | • Rehabilitating vacant lots and office space |
| University of Pennsylvania | Philadelphia, PA | • Homeownership incentives<br>• Purchasing and renovating homes for resale |
| Xavier University | New Orleans, LA | • Created a CDC<br>• Funded home rehabilitation<br>• Promotes cooperative home ownership<br>• Seed funding for small businesses |
| Youngstown State University | Youngstown, OH | • Purchased land, regifted for development |

**Physical capital**

Real estate development is perhaps the most visible component of anchor institution initiatives in urban development. Campus planning occurs within a complex political economy that is instantiated at the campus, campus-community interface, and campus district levels (Dalton et al., 2018). Issues such as aesthetics, utility, and sustainability must all be met by the buildings and overall campus design. To incorporate economic development further complicates the decisions to be made, but many campuses are attempting to do so (CEOs for Cities with Living Cities, 2010). Johns Hopkins sold approximately 100 properties to a development nonprofit to be transformed into mixed-use housing and biotechnology labs (Initiative for a Competitive Inner City, 2011). Arizona State University and the University of Washington both built entirely new campuses and reshaped downtown neighborhoods (CEOs for Cities with Living Cities, 2010; Dalton et al., 2018). Other urban universities are also expanding intentionally to achieve larger goals of economic development, such as Georgia State University, Clark University, Worcester Polytechnic Institute, and Northeastern University (CEOs for Cities with Living Cities, 2010; Dalton et al., 2018).

***Table 2.*** Initiatives leveraging physical capital.

| **University** | **City** | **Description** |
|---|---|---|
| Arizona State University | Phoenix, AZ | • Built new campus downtown |
| Case Western Reserve University | Cleveland, OH | • Building Museum of Contemporary Art and physical development of a main street<br>• Transportation infrastructure |
| Clark University | Worcester, MA | • Brownfields clean-up<br>• Housing developments<br>• New research center |

| | | |
|---|---|---|
| Emerson College | Boston, MA | • Built mixed-use cultural district |
| Georgia State University | Atlanta, GA | • Real estate development |
| Harvard University | Boston, MA | • Mixed-use development |
| Indiana University Northwest | Gary, IN | • New medical center |
| Indiana University-Purdue University at Indianapolis | Indianapolis, IN | • Campus expansion |
| Johns Hopkins University | Baltimore, MD | • East Baltimore mixed use development |
| Loyola University Chicago | Chicago, IL | • Off-campus property development and retail partnerships |
| Massachusetts Institute of Technology | Cambridge, MA | • New research park and mixed-used development |
| Metropolitan State University | St. Paul, MN | • Library in partnership with St. Paul to also be a public library |
| Missouri State University | Springfield, MO | • Urban innovation park |
| Northeastern University | Boston, MA | • Residence hall with units available for area residents |
| Ohio State University | Columbus, OH | • New facilities, including mixed use |
| Portland State University | Portland, OR | • New academic facility and public square |
| Rutgers University - Newark | Newark, NJ | • Built new and rehabilitated homes |
| San Jose State University | San Jose, CA | • Joint university-public library |
| St. Louis University | St. Louis, MO | • New arena and research building |
| Temple University | Philadelphia, PA | • University expansion<br>• New sports center |
| Trinity College | Hartford, CT | • Redeveloped bus depot and industrial buildings into mixed use development |
| University of Arkansas at Little Rock | Little Rock, AR | • Greenway restoration<br>• Built new academic space<br>• New intramural fields near student housing |
| University of Nevada, Las Vegas | Las Vegas, NV | • Mixed use development and pedestrian infrastructure |
| University of North Carolina, Charlotte | Charlotte, NC | • Land-swap to give university-owned land to a developer |
| University of Pennsylvania | Philadelphia, PA | • New mixed-use developments |
| University of Washington, Tacoma | Tacoma, WA | • Built new campus downtown |
| Youngstown State University | Youngstown, OH | • Built new residence halls |

## Intellectual capital

Some anchor institution initiatives employ the expertise and discovery capabilities of students and faculty to foster competitive business hubs through technology transfer or business incubators (Appleseed, 2003; Maurrasse, 2007; Webber & Karlström, 2009; Wittman & Crews, 2012). Technology transfer was historically operationalized as patents for marketable discoveries transferring from faculty and universities to existing firms specializing in the relevant market (Etzkowitz, 2014). More recently, however, technology transfer increasingly takes the form of firm creation (Etzkowitz, 2014; Geiger & Sá, 2005). In this model, faculty create new firms based on their discoveries. Faculty own and operate their own firms, and universities receive some percentage of royalties or hold some degree of equity (Wright, Lockett, Clarysse, & Binks, 2006). Productivity gains through university innovation, while dispersed somewhat spatially, are primarily concentrated within several miles of the university (Andersson et al., 2009).

The economic effects of knowledge generated at universities are not limited to faculty. Kantor and Whalley (2014) used census data on industries outside of education to explore knowledge spillovers, or the indirect benefits of the teaching and research missions of universities. They found a 10% increase in higher education spending increased noneducation sector wages by 0.8%. The sectors that experienced the highest increases in wages tended to rely on university patents, overlap with university labor markets, or require postsecondary degrees for their positions. Entire regional ecosystems benefit from the intellectual capital produced by universities.

A strategy to both aid faculty in commercializing their research and help students create new firms is to establish business incubators. Business incubators facilitate commercialization and innovation through three main methods (Gulbranson & Audretsch, 2008). First, they provide seed funding for new firms, helping them survive the early years in which most firms fail. Second, incubators serve as an advising resource for students and faculty to overcome knowledge deficits. Faculty who hope to commercialize research or students new to the field often are not knowledgeable about the intricacies of the private market. Third, incubators connect students and faculty to relevant industry partners, fostering the social capital needed for successful firms. University business incubators can operate using one, all three, or any combination of these strategies (Gulbranson & Audretsch, 2008).

Academic engagement can also apply faculty expertise for purposes of community and economic development (Hodges & Dubb, 2012; Initiative for Competitive Inner Cities, 2011; Rooney & Gittleman, 2003; Wittman & Crews, 2012). Academic engagement is composed of projects usually discussed under the label of community engagement or engaged scholarship (Hodges & Dubb, 2012). Doberneck, Glass, and Schweitzer (2010) categorize academic engagement into four typologies: (a) service-learning, (b) engaged research, (c) consulting activities, and (d) commercialized research, which encompasses the activities discussed above such as technology

transfer. While academic engagement can be more difficult to coordinate and target to specific neighborhoods due to the reliance on individual faculty-community partnerships, it can be extraordinarily cost effective compared to other anchor institution initiatives (Hodges & Dubb, 2012). Large public universities, particularly land-grants, tend to emphasize this type of engagement, but targeted anchor institution initiatives at schools such as Penn or Syracuse University use academic engagement to supplement larger projects leveraging financial or physical capital (Hodges & Dubb, 2012). For example, Syracuse University led an anchor institution initiative called the Near Westside Initiative to develop a neighborhood near the university. A substantial portion of the initiative involved buying and renovating vacant homes and warehouses, but more than 350 students also participated in the initiative through service-learning courses that focused on various aspects of the neighborhood such as designing parks, fundraising for local projects, or identifying potential homes to receive mini-grants from the university (CEOs for Cities with Living Cities, 2010).

***Table 3.*** Initiatives leveraging intellectual capital.

| University | City | Description |
|---|---|---|
| California State University, Monterey Bay | Salinas, CA | • Student-run garden |
| Clark University | Worcester, MA | • Biotech incubator |
| Georgetown University | Washington, D.C. | • High school courses taught by Georgetown law students<br>• Free clinic for uninsured families run by med students |
| Indiana University-Purdue University at Indianapolis | Indianapolis, IN | • Service-learning<br>• Faculty engagement |
| Loyola University Chicago | Chicago, IL | • Service-learning |
| Rutgers University - Newark | Newark, NJ | • Start-up incubator |
| San Jose State University | San Jose, CA | • Service-learning for greenways |
| Syracuse University | Syracuse, NY | • Service-learning and engaged research in targeted areas |
| The University of Utah | Salt Lake City, UT | • Community engaged scholarship |
| University of Louisville | Louisville, KY | • Placing student teachers in targeted schools<br>• Small business counseling and consulting<br>• Youth Violence Prevent research center<br>• Arts and cultural research |
| University of Pennsylvania | Philadelphia, PA | • Service-learning<br>• Engaged research |

| | | |
|---|---|---|
| University of San Diego | Linda Vista, CA | • Community engagement center focused on the Linda Vista neighborhood |
| Wayne State University | Detroit, MI | • Business consulting |

### Human capital

Universities invest their own financial, physical, and intellectual capital in anchor institution initiatives for local economic development. Universities also invest various resources in local communities' human capital to achieve the same ends. Such investments can include partnerships with health organizations, support for local K-12 school systems, prioritizing local applicants in hiring decisions, crime reduction, or offering public events to foster cultural vitality (Appleseed, 2003; Hodges & Dubb, 2012; Initiative for Competitive Inner Cities, 2011; Maurrasse, 2007; Rooney & Gittleman, 2003; Webber & Karlström, 2009; Wittman & Crews, 2012). Many universities have partnerships with local health organizations or schools, and some even have their own hospitals, clinics, or charter schools (Hodges & Dubb, 2012). For example, North Carolina State University created a community counseling center in 2015, housed in a location off-campus to be more accessible to community members (Grimmett, Lupton-Smith, Beckwith, Englert, & Messinger, 2018). Whereas health and K-12 partnerships, local hiring, and cultural events are directly tied to specific actions, crime reduction is often more difficult to achieve for universities, but improved lighting or partnerships between municipal police and campus police are steps taken by universities in the past (Etienne, 2012). There are other examples of initiatives to improve human capital in surrounding neighborhoods, but these are the most commonly cited in the anchor literature.

***Table 4.*** Initiatives leveraging human capital.

| **University** | **City** | **Description** |
|---|---|---|
| California State University, Monterey Bay | Salinas, CA | • Community learning center |
| Case Western Reserve University | Cleveland, OH | • Art and tech after-school activities<br>• Job training |
| Clark University | Worcester, MA | • 4-year scholarships for residents |
| Georgetown University | Washington, D.C. | • Tutoring programs<br>• College prep programs<br>• Mobile health clinics |
| Indiana University-Purdue University at Indianapolis | Indianapolis, IN | • School partnerships |
| Metropolitan State University | St. Paul, MN | • Education pipelines |

| | | |
|---|---|---|
| Rutgers University – Newark | Newark, NJ | • New high school in a science park |
| San Francisco State University | San Francisco, CA | • Training and employment center<br>• Literacy and writing workshops for children |
| The University of Utah | Salt Lake City, UT | • Education pipelines<br>• Community leadership programs |
| Trinity College | Hartford, CT | • New community centers, a police substation, and a magnet school |
| University of Cincinnati | Cincinnati, OH | • Education and healthcare partnerships |
| University of Louisville | Louisville, KY | • Early child development center<br>• High school partnered with Law school<br>• College enrollment programs<br>• Parental involvement programs<br>• Teen pregnancy prevention programs |
| University of Pennsylvania | Philadelphia, PA | • New charter school<br>• Expanded university police beyond campus |
| University of San Francisco | San Francisco, CA | • Literacy programs<br>• Transitional programming for youth moving into full-time employment |
| Virginia Commonwealth University | Richmond | • Neighborhood policing<br>• Health programs<br>• New elementary school |
| Wayne State University | Detroit, MI | • Community leadership fellowships |
| Xavier University | New Orleans, LA | • Beautification and public safety partnerships |

**Future of Anchor Institution Literature**

The futures of anchor institution initiatives are far from certain. The title of Hodges' and Dubb's (2012) book is *The Road Half Traveled*, referring in part to the lack of systematic assessment or sharing of best practices that accompanies other trends in higher education. Rutheiser (2012) responded to the book by saying the title was likely overly optimistic, extending the metaphor to claim, "the road ahead exists only as dotted lines on a map charting multiple possible rights of ways" (para. 6). Given the complex political economy of universities and cities, Rutheiser's assessment is apt, and it begins to hint at the larger question advocates of university-led urban development must face: are anchor institution initiatives appropriate strategies for democratizing economies (Iuviene, Stitely, & Hoyt, 2010)?

The answer may be more complicated than most anchor literature assumes. Morris et al. (2010) are wary of the domineering political and economic influence anchor institutions hold in their cities, and Walker and East (2018) are explicitly skeptical anchor institution initiatives are building local capacity as opposed to contributing to gentrification processes. The reality is very little work to date attempts to distinguish whether increases in neighborhood vitality measures are due to improvements in community members' lives or because community members were replaced by higher income residents. These potential gentrification processes occur at a time when universities and coalitions are searching for ways to assess their impact (Democracy Collaborative, 2018). As universities develop assessment tools and design anchor institution initiatives, evidence on the effects of prior initiatives on neighborhood change is vital to inform future, equitable development efforts. The typology created here can help frame and guide future studies, identifying which strategies are effective at building local wealth in equitable, sustainable ways.

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METROPOLITAN Universities

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Original Research

# An Exploratory Study of the Community Impacts of Service-Learning

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## Abstract

Research on community impacts from service-learning has been scarce, yet this area is worth exploring in order to understand how and why service-learning can make a difference. The current research sought to validate a conceptual framework (Lau & Snell, 2020), which categorizes the impacts of service-learning on community partner organizations (CPOs) and on end-beneficiaries. Under the framework, impacts on end-beneficiaries can arise directly from service-learning interventions, but can also arise indirectly as a result of impacts on CPOs. For the research, semi-structured, one-to-one or focus group interviews were conducted with 13 CPO representatives, seeking their perceptions of positive and negative impacts of service-learning. Most described impacts were positive, including, for CPOs: achieving project goals to further the CPO's mission; augmenting resources of the CPO; and gaining knowledge, insights, ideas and techniques. These positive impacts for CPOs appear to reflect three factors: alignment between service-learning project goals and the CPO's mission; mutual recognition of students' potential for transferring knowledge from universities to CPOs; and mutual understanding of students' status as semi-outsiders, free to challenge existing practices or systems. Further studies can explore impacts from the end-beneficiary's perspective, and adopt longitudinal and action research approaches.

**Keywords:** service-learning, community impacts, alignment, needs, knowledge transfer

## Introduction

Service-learning, as "a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development" (Jacoby, 1996, p. 5), has been widely adopted in higher education across the globe (Ma, 2018; Shumer, Stanton & Giles, 2017). Many higher education institutions adopting service-learning are urban and metropolitan universities (such as those in Hong Kong), following the tradition of emphasizing the use of knowledge for the betterment of society and educating students into becoming civic leaders with a sense of social responsibility (Bringle & Hatcher, 1996; Kellogg, 1999). A large body of research has accumulated regarding the beneficial impacts of service-learning on student learning outcomes (e.g. Astin, Vogelgesang, Ikeda, & Yee, 2000; Elyer, Giles, Stenson, & Gray, 2001; Felten & Clayton, 2011; Ngai, 2006, 2009; Shek & Chan, 2013; Snell, Chan, Ma, & Chan, 2015a), and a number of measurement instruments for capturing these impacts have been developed (e.g. Bringle, Philips, & Hudson, 2004; Toncar, Reid, Burns, Anderson, & Nguyen, 2006; Snell & Lau, 2020).

However, the impact of service-learning on the community, an equally important stakeholder of this pedagogy, has received much less attention. More than 20 years ago, Giles & Eyler (1998) identified the community impact of service-learning as one of the "top ten unanswered questions in service-learning research" and until recently the relative neglect of this question was still being criticized (e.g., Farahmandpour & Shodjaee-Zrudlo, 2015).

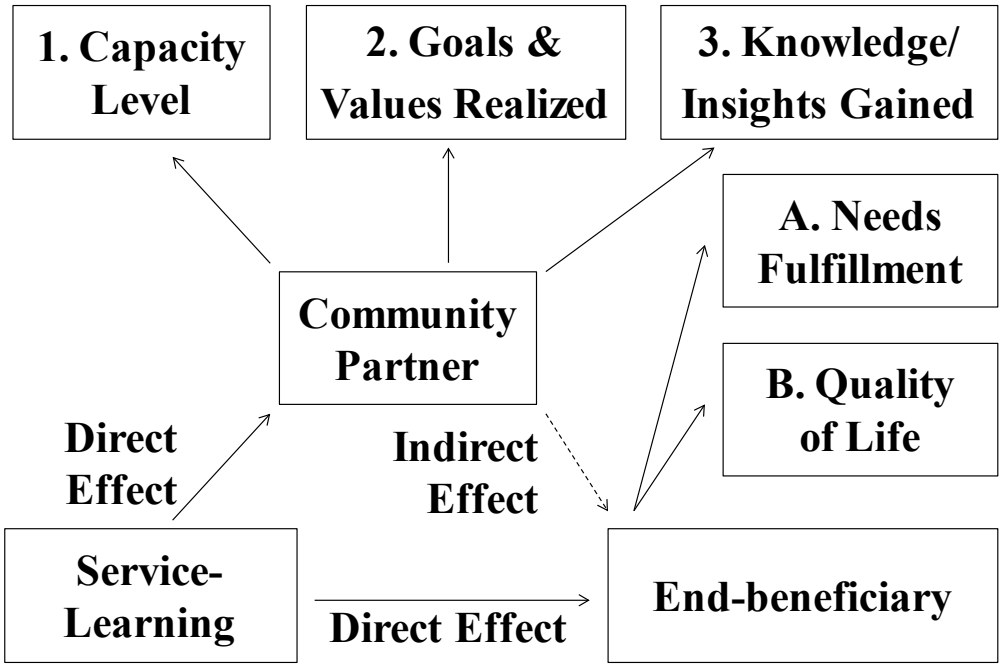
One reason why community impact is important for service-learning is that meeting needs identified by the community predicts students' personal development through service-learning (Eyler & Giles, 1999). Another, more fundamental reason is that mutually beneficial partnerships between campus and community form the basis of effective and sustainable service-learning (Holland & Gelmon, 1998).

The dearth of research on the community impacts of service-learning may, in part, reflect the methodological challenges of defining the boundaries of the affected community, and of operationalizing measures of community impact (Cruz & Giles, 2000). Moreover, the responses of some potential end-beneficiaries of service-learning, whom this article refers to as those individuals or groups, besides the CPO itself or employees of the CPO, who are perceived to benefit directly or indirectly from the service-learning intervention, may not be readily accessible. Most studies of community impact that have taken place have therefore been based on interviews with community partner organization (CPO) representatives as proxies of end-beneficiaries.

Another difficulty encountered in researching has been the lack of conceptual framework. There are few models in prior literature, and almost all of them consider community impact exclusively

from the community partner's perspective (e.g., Clarke, 2003; Driscoll, Holland, Gelmon, & Kerrigan, 1996; Gelmon, 2003). Lau and Snell (2020) recently developed a tripartite model comprising three components: the service-learning intervention, the CPO, and the end-beneficiaries (see Figure 1).

***Figure 1***. A Conceptual Model for Assessing Community Impact




The model in Figure 1 identifies three domains of impact on the CPO: (1) increased capacity, (2) furtherance of goals and values, and (3) knowledge/ insights gained. The model also identifies (a) needs fulfillment and (b) quality of life as two broad impact domains for end-beneficiaries. A separate model, derived from Max-Neef (1991) classifies 36 types of end-beneficiary needs that could be positively impacted, comprising nine types (subsistence, protection, affection, understanding, participation, leisure, creation, identity and freedom) with four satisfiers for each (being, having, doing and interacting). Table 1 shows the 36 types of needs.

***Table 1***. The Matrix of Needs and Satisfiers

| | **Being** | **Having** | **Doing** | **Interacting** |
|---|---|---|---|---|
| Subsistence | 1. Health | 2. Food, shelter, work | 3. Feed, procreate, rest, work | 4. Living and social setting |
| Protection | 5. Care, autonomy | 6. Social security, health systems, rights, work | 7. Co-operate, take care of | 8. Living and social space |
| Affection | 9. Self-esteem, respect, passion | 10. Partnerships, family | 11. Take care of, express emotions, share, cultivate | 12. Privacy, intimacy, space of togetherness |
| Understanding | 13. Curiosity, rationality | 14. Education, communication | 15. Investigate, educate, analyze | 16. Interaction setting, schools |
| Participation | 17. Adaptability, willingness, | 18. Duties, rights | 19. Co-operate, interact | 20. Participation setting |
| Leisure | 21. Imagination, humor, sensuality, tranquility | 22. Games, peace of mind | 23. Memories, fantasies, fun | 24. Privacy, free time, space of closeness |
| Creation | 25. Passion, imagination, inventiveness | 26. Abilities, skills, methods | 27. Invent, build, design | 28. Productive and feedback settings |
| Identity | 29. Sense of belonging, consistency, differentiation | 30. Language, religions, habits, reference groups, values | 31. Integrate, know oneself, grow | 32. Settings which one belongs to |
| Freedom | 33. Autonomy, open-mindedness | 34. Equal rights | 35. Dissent, choose, disobey | 36. Plasticity |

*Source: Max-Neef (1991)*

Both Figure 1 and Table 1 draw attention to the importance of contributing to the fulfillment of end-beneficiaries' needs. In addition, Figure 1 indicates that impacts on end-beneficiaries may arise indirectly as a result of impacts on the CPO, as well as arising directly from the service-learning intervention.

On the basis of interviews with representatives from CPOs that had been partners of service-learning projects, the current study had two main goals. The first was to establish whether the model in Figure 1 and the taxonomy in Table 1 were supported by the accounts provided by the interviewees. The second was to identify any implied modifications to the model and the taxonomy arising from the interviewees' accounts, before any subsequent quantitative validation.

## Methods

### Interviewees

The authors adopted a qualitative approach by interviewing representatives of 13 CPOs that had collaborated in service-learning projects with one of four local universities. The latter comprised Lingnan University (LU), The Hong Kong Polytechnic University (HKPU), Hong Kong Baptist University (HKBU), and the Education University of Hong Kong (EdUHK). The four universities were invited to nominate CPOs that they worked with for several years on multiple projects. A quota sampling method was employed in selecting the CPOs based on two criteria: the type of service-learning project (i.e., direct, indirect, advocacy, or research), and the type of CPO (e.g., NGO, social enterprise). Invitations were sent to 16 local, Hong-Kong based CPOs, and representatives of 11 of them were interviewed (in one case two representatives were interviewed). Two overseas CPOs were also invited, in order to extend the generalizability of this study to overseas programs (see Table 2).

As shown in Table 3, all interviews referred to the perceived impacts of projects that involved direct and/or indirect service, while some also referred to projects that involved research and/or advocacy. Most CPOs represented in the current research were NGOs or social enterprises, and between them they catered for the needs of a wide range of end-beneficiary groups. Moreover, the students who had worked with the CPOs on service-learning projects majored in diverse disciplines. The authors, thus, believe the sample was sufficiently diverse to include a wide range of potential community impacts.

***Table 2***. Profile of the interviewees, the CPOs represented by them, and the associated collaborations

| No. | CPO Type | CPO's Service Targets | Interviewees' Profile | | Collaborating University |
|---|---|---|---|---|---|
| | | | Position | Gender | |
| R01 | NGO | Elderly people | Senior Supervisor of Social Services Division | Female | LU |
| R02 | NGO | Low income families | Project Manager | Male | LU |
| R03 | Social Enterprise | Women | General Secretary | Female | LU |
| R04 | NGO | The public including international visitors | Assistant Discovery & Education Manager | Male | LU |
| R05 | Social Enterprise | Elderly people | Senior Supervisor of Community Support Centre | Male | LU |
| R06 | NGO | Elderly people (dementia) | Senior Supervisor (Counselling and Caring Service Team) | Female | LU |
| R07 | NGO | Primary School Children | Registered Social Worker/ Officer-in-charge | Female/ Male | EdUHK |
| R08 | Social Enterprise | Masters of traditional craftsmanship in Hong Kong | Senior Corporate Affairs & Marketing Manager | Female | HKBU |
| R09 | NGO | Primary School Children | Centre-in-charge | Female | EdUHK |
| R10 | NGO / Social Enterprise | Patients / Low income groups | Senior Program Manager | Female | HKBU |
| R11 | Aided school (private) | Secondary School Children | Vice-principal | Male | HKPU |
| R12 | NGO (Inter-national) | Rural families in poverty | Program Manager | Male | HKPU |
| R13 | NGO (Inter-national) | Rural families in poverty | the Founder | Female | HKPU |

***Table 3.*** Distribution of types of project across the types of CPO

| | Service-Learning Type* | | | |
|---|---|---|---|---|
| CPO Type | Direct Service | Indirect Service | Research | Advocacy |
| NGO | R1, R2, R4, R5, R7, R9, R10, R11 | R2, R4, R11 | R2 | R2, R5 |
| Social Enterprise/ Private | R3, R8 | R3, R6, R8, R10 | R6 | R8, R10 |
| International Partners (both are NGOs) | R12, R13 | | | R13 |

*Note: Please refer to the definitions provided by The University of Minnesota Community Service-Learning Center (2020).*

## Interview Protocol and Procedures

After CPOs accepted the invitation, representatives from them, who carried knowledge about previous service-learning projects were selected for interview. The nominees were contacted by the research team for interview arrangements, and at that time were briefed about the focus of the interview and assured of data confidentiality. With one exception, nominees agreed to a face-to-face interview. In the exception case, a combination of telephone and online video conferencing was used. Before each interview, the research team obtained consent from the interviewees regarding their voluntary participation and their support of an audio or video recording of the interview.

Each interview lasted between 60 and 130 minutes and followed an interview protocol that was divided into four sections. First, interviewees were asked to relate critical incidents to their experiences and observations of projects they perceived to have been relatively successful or unsuccessful in terms of impact on their own CPOs and/or for their community. Second, interviewees were asked to share their perceptions and suggestions about aspects of project management that could enhance community impact. For example, "What do you think could be done before or during a service-learning project in order to facilitate students' learning in ways that could increase their potential to provide positive community impacts?"

Third, interviewees were asked to explain their perceptions of the benefits and costs for their CPOs and for end-beneficiaries, which had arisen from collaboration in service-learning. For example, "From your experience, what benefits has service-learning brought to your organization/ clients/ service targets? Please give me an example." Fourth, interviewees were asked to comment on and provide explanations about any aspects of the service-learning projects and/or the associated collaborations that had been particular sources of satisfaction or dissatisfaction for them and/or other stakeholders.

### Data Analysis

The recordings of the interviews were transcribed by the second and third authors. Each transcript was then reviewed and coded by the research team. Coding was based on an inductive approach (Charmaz, 2006) for creating subcategories within the parameters of Figure 1. The emerging category system was compared against the full dataset with iterations, using techniques such as storyline (Chun Tie, Birks, & Francis, 2019), until saturation.

## Findings

### Positive Impacts for CPOs

As categorized in Table 4a, interviewees indicated that the main benefits that service-learning had brought to the respective CPOs comprised: (a) achieving intended project outcomes and thereby contributing to their mission; (b) establishing or enhancing relationships with their stakeholders; (c) obtaining resources to augment service capacity; and (d) gaining new knowledge/ insights/ techniques. Next, the authors shall provide illustrations of these various benefits.

***Table 4a***. Categories and Mentions of Positive Impacts

| **Overarching Categories** | **Frequency of mentions** |
|---|---|
| Achieving project goals to further the CPO's mission | 87 |
| Establishing/ enhancing the CPO's stakeholder relationships | 9 |
| Augmenting the resources of the CPO | 41 |
| Knowledge, insights/ideas, techniques for the CPO | 43 |
| Positive impacts for end-beneficiaries/ community | 75 |
| **Total** | **255** |

**Achieving project goals to further the CPO's mission**.

Many interviewees reported that service-learning projects had given rise to valuable outputs, which had enhanced the CPO's existing services, or had helped the CPO to create new services.

***Table 4b.*** Categories and Mentions of Positive Impacts on Achieving Project Goals to Further the CPO's Mission (Corresponding to CPO's Goals and Values Realized in Figure 1)

| Positive Impact Categories | Frequency of mentions |
|---|---|
| Tangible project output/ contribution | 27 |
| Enhanced the CPO's service | 20 |
| Helped to achieve partner goals | 15 |
| Promoted the CPO's service | 14 |
| Enhanced sense of satisfaction | 7 |
| More opportunities | 4 |
| Total | **87** |

For example, students in one service-learning project helped to edit and publish a book about the food recycling service of the CPO, which featured interviews with end-beneficiaries. The respective interviewee indicated that the project achieved the goals of engaging end-beneficiaries in interviews and of promoting the CPO and its food recycling service.

> I felt impressed with…this book. It was made by the practicum students…We also invited the course's professor to write the preface…The students interviewed people in the neighborhood and reported their stories… We needed materials like this book, so that we could introduce our services to our residents and show how these have been valued by others… (R2)

Some interviewees referred to other kinds of contribution by students, which they regarded as having furthered the mission of the CPO by increasing the number of clients that the CPO was able to serve. For example, in one project, students helped to operate booths and conduct games as means to advocate environmental protection, stating, "We really earned a very tangible reward from the program. They [the students] could reach out to several thousands …" (R4)

**Establishing/enhancing the CPO's stakeholder relationships.**

Nine relevant quotes were collected in this category without further sub-categories being identified. One interviewee explained how students helped to advance the respective CPO's mission of promoting traditional local craftsmanship by persuading some local artisans to be video recorded while sharing their skills and experience. The students helped to shoot and edit the video for sharing with the public. The interviewee said:

> The artisans were willing to cooperate with the students for free because they saw this as a one-off commitment to help the students with their assignment. Previously, when we tried to enlist the artisans ourselves, some of them had been reluctant, and considered that they should be paid for their participation. (R8)

In the above case, the students served as a bridge, enabling the CPO to establish relationships with artisans. An interviewee from another CPO explained that relationships formed with students through service-learning collaboration had helped his organization to connect with customers:

> A former student visited me and asked if I remembered her. She told me that she once undertook service-learning in our enterprise. She then worked for the Human Resources department in a company and would like to order some Christmas party gifts from our enterprise. Some other previous students also told me that they had sent my name card to their bosses… So, students would help open up channels for promoting our social enterprise in the longer term. (R5)

**Augmenting the resources of the CPO.**

Another type of positive impact for CPOs entailed gaining temporary resources to augment their normal capacity.

***Table 4c.*** Categories and Mentions of Positive Impacts on Augmenting the Resources of the CPO (Corresponding to CPO's Capacity in Figure 1)

| **Positive Impact Sub-categories** (where applicable) | **Frequency of mentions** |
|---|---|
| More human resources | 15 |
| Shared/ reduced workload | 9 |
| More support | 4 |
| More positive work environment | 4 |
| More resources generally | 3 |
| Larger capacity to serve clients | 2 |
| Manpower development | 2 |
| Reduced expenses/ costs | 2 |
| **Total** | **41** |

The most frequently mentioned factor in this regard referred to human resources, reflecting that interviewees considered that the additional manpower provided by students in undertaking service-learning helped to reduce the workload of regular employees, increase the CPO's capacity to serve clients, and reduce its expenses. For example:

> Being able to allocate tasks to the university students reduced the workload of the regular tutors... so that each tutor could focus more attention on fewer children when handling their homework issues. (R7)

> By arranging the service-learning projects, we increase the number of clients, whom we can serve, and we can also provide new activities for them. Besides, we improve the quality of the existing activities. (R13)

> [The university] will provide suitable training for the students. This minimizes the time and administrative cost incurred for our full-time staff. Furthermore, the project is easier for me to handle. (R4)

> I can say that because of the help of students and using the part-time standard rate as a yardstick for what we would otherwise have paid, we have saved HK$100,000 dollars per annum. (R5)

Interviewees also indicated that besides furnishing the CPOs with resourceful partners (students), with whom they could co-create ideas and practices when implementing service-learning projects. Such projects served as a channel for identifying, attracting, and recruiting suitable students as employees after their graduation.

> We can brainstorm together. Social enterprises lack human resources…The students are not treated as cheap labor, and we would like to co-create with them. (R8)

> We plant the seeds in universities and …we can have a stable supply of human resources with those students, who have completed service-learning. (R2)

In the context of international service-learning, interviewees explained that financial resources played a crucial role in enabling the respective CPO to achieve better service quality and expand its service scope.

> The partner university obtained additional funding…and for the trip this year, the number of participants increased to 30, among which were 24 students and three teachers from the university, and another three teachers from [another] university. (R10)

> We need the resources and we need funds. So, if we don't have the funds and the resources, we can't operate. So, with that partnership [with the university], through [service-learning] projects, our organization has been able to reach out to needy people, and therefore, fulfilling the mission. (R12)

**Knowledge, ideas/insights, techniques for the CPO.**

***Knowledge***: Some interviewees explained how students contributed knowledge that was helpful to the respective CPOs.

***Table 4d.*** Categories and Mentions of Positive Impacts on Knowledge, Insights/Ideas Techniques for the CPO (Corresponding to Knowledge/Insights Gained by the CPO in Figure 1)

| **Positive Impact Sub-categories** (where applicable) | **Frequency of mentions** |
|---|---|
| New ideas, insights | 21 |
| New knowledge | 14 |
| New experience | 6 |
| Enhanced skills | 2 |
| **Total** | **43** |

For example:

> As an NGO, our knowledge is limited, and the students could fill the gaps. For example, we needed to calculate the weight of the clothes that we collect, and the carbon dioxide emissions associated with our activities, but we didn't know how to do the calculations. The students informed us about the sources of the formulae from websites. (R11)

***Ideas/ insights***. Many interviewees reported that students provided new ideas or insights that had not previously been considered. These ideas could sometimes inspire service innovations, as when students suggested applying skills that were being used for the embroidery of traditional Chinese shoes to the decoration of a modern luggage tag:

> The students emphasized new ideas for the product…and the new product for embroidered shoes…The students linked up the shoe embroidery skills and applied it to decorate the luggage tag…For example, they embroidered my name on the tag… It was good for the students to approach the artisan about the "embroidered shoes"…and they had innovative ideas to transform the traditional product. (R8)

Interviewees observed that students' imagination was not confined by established structures and practices, and many of them treasured the creativity of students, whom they saw as outsiders with greater freedom to think "out of the box." For example:

> I think [the students] have been most helpful with their creative ideas. Typically, when we [in this CPO] think of something new, we veto our own ideas. We will worry about where to find the money, where to find the place, what are the techniques? The students

> don't seem to have any of this burden, and I treasure this a lot. I just want them to talk about their ideas, even very weird ones. (R5)

Through discussions between students and experienced staff members, students' ideas could be tested and modified, and eventually some of them would become valuable assets for CPOs and their staff members. Most interviewees mentioned similar episodes of synergy, such as the following:

> Most colleagues would be pre-occupied by regular duties and confined to existing ideas and practices. Through collaborating with … students, we acquired new stimuli and ideas… [For example], the idea of "Aquaponics" impressed me a lot and this was very creative. I had learnt about that idea before but I had never thought that it could be executed in my place. (R6)

> We may try out an idea if resources are available [in our CPO] or in the market… One example was about upcycling. Some manufacturers donate leather samples… We explained to the students that this large pile of leather samples should not be dumped in the landfills… They were outstanding and thought of knitting the leather into a hand strap. You can find that many young people have a leather hand strap, and also a wallet and purse, and many other things. (R10)

***Techniques***. Several interviewees mentioned gaining techniques based on students' IT abilities, for example:

> [The students] are good at using Excel and PowerPoint. Through Forum and Instagram, they help a lot in passing on messages. Compared with our staff, the university students have absolute advantages in this aspect…We also learn from the students, for example, the techniques of using the internet and also functions within WhatsApp… (R10)

### Positive Impacts for End-beneficiaries/ Community

Interviewees identified various kinds of beneficial impacts for end-beneficiaries, comprising some benefits that may have arisen directly from service-learning interventions, and others that may have come about indirectly via the CPOs, as a result of positive impacts of service-learning on the latter.

***Table 4e***. Categories and Mentions of Positive Impacts on Positive Impacts for End-beneficiaries/ Community (Corresponding to Needs Fulfilment/ Better Quality of Life for End-beneficiaries in Figure 1)

| **Positive Impact Sub-categories** (where applicable) | **Frequency of mentions** |
|---|---|
| Positive impacts on end-beneficiaries generally | 47 |
| More participation by end-beneficiaries | 7 |
| Positive impacts for the community | 7 |
| Increased income | 4 |
| Better quality of life | 4 |
| Meaningful service | 3 |
| Sustainable contributions received by the community | 2 |
| Sub-total | **75** |

Some interviewees described what they perceived as substantial, positive impacts for end-beneficiaries that they attributed to service-learning projects. For example, one interviewee referred to the impacts for local residents, which arose from an international service-learning project that involved installing solar-powered lighting systems in remote villages in Cambodia:

> [Before the installations] when it was dark, the children could not do their homework. But with solar-powered lighting, they can now do their homework between 6 and 8 p.m. That's something we regard as a major benefit for the education of children. Also, because of the lighting, their parents can oversee the surrounding household environment. This is very important for two reasons. First, security can be ensured as nobody can come and steal their property such as animals…Second, the parents can continue doing their work during the evening. [Before] when it was dark, they stopped and went to bed. (R12)

This interviewee also characterized students as intermediaries in the knowledge transfer process from universities, via the CPO, to the community.

> We worked together with the university and their students to transfer knowledge and skills into community development … It's the transfer of skills and knowledge that directly benefits the end users. (R12)

In this example, the tangible outputs of service-learning were solar power and the associated lighting provided for the local community, but there were also three additional benefits arising from these. The framework derived from Max-Neef (1991) given in Figure 1 can be used to categorize these impacts, as follows. First, enabling children to continue their studies met needs related to understanding-doing; second, improving household security met needs related to protection-having; third, enabling residents to extend working hours into the evening met needs

related to subsistence-doing. Meeting these needs was perceived as having enhanced the villagers' quality of life.

Hong Kong based interviewees also provided examples of positive impacts for local end-beneficiaries. One such example involved a regular arrangement, under which cohorts of university students had run a STEM education program for junior students from a secondary school:

> For the first session [of the STEM program], our S1 [secondary] students go to the university campus [receipt of education (understanding-having)] … The university students serve as teachers, but the class is more like an interest class [fun (leisure-being)] … [They] lead the S1 students to brainstorm how the technologies of STEM can be used to create solutions for problems [engaging in investigating (understanding-doing)] faced by elderly people. In response to the S1 students' ideas, they teach them [skill acquisition (creation-having)] how to produce prototypes [inventiveness (creation-being)]; [designing (creation-doing)] … and how to present the products to the elderly people [actively participating in an educational setting (understanding-interacting)] … Our S1 students, without any prior knowledge, can implement their ideas with the support of the university students [participating in a setting for production (creation-interacting)] … Many, with no prior understanding of science, begin developing an interest in science [curiosity (understanding-being)]. When they are promoted to senior forms, they are more likely to choose science subjects … They have extended their horizons… As they become mature, they experiment in S2 and S3 and learn more about science in S4 and S5. Last October, a group of our secondary students went overseas, participating in a well-known worldwide science competition, winning the bronze prize. (R11)

In the above account, as perceived by R11, the services provided by the university students undertaking service-learning project have not only given rise to immediate satisfaction and knowledge for the S1 students, but have also generated interest that has paved the way for the secondary students' subsequent participation in further STEM educational and project-based activities. As with the previous example, the Max-Neef (1991) needs fulfilment framework can be used to categorize the perceived impacts. In terms of immediate impacts of the STEM education session for the S1 students, the interviewee perceived that the latter had benefitted in terms of fulfilling the needs of curiosity and education. The interviewee also perceived that with the help of the university students, the S1 students had undertaken projects, through which they created simple prototypes, thereby benefitting in terms of skill acquisition and translating it into an inventive and innovative design for inspiring the community members. In addition, the session appeared to the interviewee to be like an interest class, potentially involving a form of leisure for the S1 students.

Furthermore, the interviewee attributed the decision of some secondary students to pursue their interest in science through self-study and to undertake science subjects in subsequent years to the impact of the STEM education session provided by the university students, and even hinted that the evolution during years S2-S5 of the secondary students' sense of belonging within the science community could be attributed to this intervention.

## Discussion

The current research indicates that from the perspective of representatives of CPOs, service-learning projects undertaken by students from universities in Hong Kong were perceived to have had favourable community impacts. Moreover, the findings have confirmed the proposed model, paving the way for translating the model into institutional and practitioner guidelines for higher education institutions, including the urban and metropolitan universities. One tangible output of value to both the service-learning research and practitioner communities is that arising from the research, a Community Impact Feedback Questionnaire (CIFQ) has been developed (Lau & Snell, 2021). The CIFQ has been designed to capture the community impacts arising from service-learning from the CPO's perspective, and is intended for practical use as a tool for improving service-learning programs. The remainder of this section recaps the main findings regarding community impacts, seeks to explain why these impacts arise from service-learning, relates findings to other recent research, acknowledges limitations, and identifies directions for further research.

### Positive Impacts for CPOs

Consistent with the conceptual model in Figure 1, the three main types of perceived benefit for CPOs were: achieving project goals to further their mission; augmenting their resources; and gaining knowledge/ insights/ ideas/ techniques.

The first type of perceived benefit implies the need for alignment between the goals of the respective service-learning project and the CPO's mission. Such alignment requires collaboration between the CPO and the university during both planning and execution stages, as recommended by prior scholars (e.g., Mattessich & Monsey, 1992; Wade, 1997).

The second type of perceived benefit reflects that NGOs and social enterprises in Hong Kong tend to face manpower shortages, and that students undertaking service-learning projects have been able to help fill this gap, thereby increasing the capacity of CPOs to serve clients without increasing workloads among regular employees. Some interviewees pointed out that in such cases the students were regarded as knowledge workers and not merely as "cheap labor" and that it was essential for the students to be fully inducted into the CPO's mission.

The third type of perceived benefit involved knowledge-related student contributions. Some of these contributions were described by interviewees as involving practical applications of functional expertise not possessed by the CPOs, typically within domains such as IT, social marketing, and engineering. Contributions of this kind could be characterized as involving a form of knowledge transfer from the university via the students to the CPOs.

Other descriptions by interviewees of students' knowledge-related contributions involved the latter introducing new ideas and fresh perspectives to the CPOs that interviewees considered valuable. As compared with regular employees, interviewees characterized students undertaking service-learning projects as semi-outsiders with fewer inhibitions against challenging existing practices or systems, and often expressing the perspective of a different generation vis-à-vis their host managers. While interviewees acknowledged that students' ideas and suggestions required careful evaluation, and were sometimes impracticable, they indicated that these could point the way toward practical service improvements and innovations. While this finding confirms previous research (Barrientos, 2010; Driscoll et al., 1996), it is important when assessing community impacts to ascertain whether tangible benefits are perceived to have come to fruition in practice.

The authors consider that students can constitute an organic synthesis of extra manpower and a source of new knowledge, skills and techniques for their host CPOs, as a result of the unique features of well-designed service-learning. An important design feature involves connecting service and academic content (Astin et al., 2000; Billig, 2007; Eyler & Giles, 1999; Snell, Chan, Ma, & Chan, 2015b). Without this connection, it may be difficult for students to transcend the role of volunteers and harness their knowledge and skills as assets for the community partners. In addition to academic content, students also drew on in their 21st century talents and skills, such as computer literacy, marketing via social media (e.g., Forum and Instagram), and creativity (e.g., applying the shoe embroidery skills to the luggage tag), as required by their CPOs. A well-designed service-learning project that is in triple alignment with academic content, graduate attributes, and community needs thus creates a uniquely powerful ecosystem that fosters win-win collaboration between students and CPOs, instead of merely supplying extra hands to relieve the CPO's work burden.

Findings for this paper are compatible with those of two other recent studies. Kindred (2020) identified both short-term and long-term benefits of service-learning for community partners in terms of organizational learning and extra capacity. Jetter, Pelco, and Elliot (2017) identified positive impacts from service-learning for a sample of 22 CPOs. They found that besides expanding organizational capacity, there were economic benefits arising from enhanced service value and fundraising activities, along with social benefits associated with building connections with the student body and the university, and reflected in the enhanced well-being of community members.

## Positive Impacts for End-Beneficiaries

As described by interviewees, some of the positive impacts for end-beneficiaries appeared to have arisen directly and immediately from service-learning projects, as with the bringing of solar-powered lighting to remote villages in Cambodia. Other positive impacts for end-beneficiaries appeared to have emerged over several years, as with the perceived ripple effects of the STEM education program for S1 secondary students at the partner secondary school. The authors may infer that in the latter case, some of the perceived benefits for the secondary school students as end-beneficiaries may have arisen indirectly, as a result of positive impacts of a series of service-learning interventions on the service quality and/or service capacity of the CPO (the secondary school).

The authors found that positive impacts for end-beneficiaries could be categorized with the Max-Neef (1991) typology of needs-fulfilment presented in Table 1, and that interviewees perceived needs-fulfilment for end-beneficiaries as being related to the enhancement of their quality of life.

## Limitations and Directions for Further Research into Community Impacts

The current research provided qualitative support for the models of the community impacts of service-learning that are given in Table 1 and Figure 1, respectively, paving the way for the development of measurement instruments such as the CIFQ, mentioned above.

While the current research has provided pointers toward the likely impacts of service-learning projects on CPOs and end-beneficiaries, a major limitation is that it has drawn exclusively on the perspectives of CPO representatives. More complete understanding of the perceived impacts of service-learning projects on end-beneficiaries and other community residents is likely to require additional data collection. This could involve end-beneficiaries reporting their perceptions of the contributions of service-learning interventions to the fulfilment of their own needs and quality of life. Such studies could be guided by the Max-Neef (1991) typology, and might involve initial diagnosis of the most salient areas of need-fulfilment for end-beneficiaries from among the 36 possible domains (see Table 1), by first interviewing CPO representatives and/or by observing the service-learning intervention(s).

For example, regarding the STEM education case described above, R11 had already been interviewed, and expressed perceptions that there were immediate impacts on the S1 secondary school students in terms of their understanding-being, understanding-having, understanding-doing, understanding-interacting, creation-being, creation-having, creation-doing, creation-interacting, and leisure-being. R11 also surmised that there may have been longer-term impacts on the secondary school students in terms of their identity-being vis-à-vis the science community. In a follow-up study of community impacts, current and former S1 students could be

interviewed systematically about their corresponding perceptions of such impacts. Their perceptions may challenge, corroborate or augment the perceptions of R11, the CPO representative. Such studies may be carried out longitudinally, tracing impacts over several years, and may also involve action research, as findings are fed back to inform the design and implementation of subsequent service-learning interventions.

Studies of community impact from the students' perspective are notably absent. Their perceptions on how service-learning impacts the communities that they serve also warrant attention.

Finally, this paper has not, until this point, mentioned adverse impacts arising from service-learning projects. Interviewees commented that on occasion, desired outcomes for the respective CPO had not been met and that, associated with this, there had been some perceived wastage of time and resources. The authors consider that such cases could be prevented by thorough and accurate need diagnosis, appropriate student preparation and training, careful management of partner expectations, and due consideration of the workload implications for students. These aspects, along with the incidence of adverse community impacts, are also topics for future research.

## Author Note

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# An Engagement of Hope: A Framework and Equity-Centered Theory of Action for Community Engagement

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## Abstract

Building upon the proposed concept of an engagement of hope (Green, Stewart, Bergen, & Nayve, 2020) emerging from the exploration of faith-based approaches to community engagement, the authors delve into collaborative inquiry and critical reflection to construct a framework and equity-centered theory of action for community engagement. Drawing from the work of faith-based community organizations and institutions of higher education, and through the lens of a practitioner-scholar framework, the authors present a scholarly approach to collaborative inquiry and exploration into an engagement of hope, responding to the current context of higher education. The development of the engagement of hope conceptual framework emerged with core approaches to community engagement, responding to the current context and seeking to move the field of community engagement to address this context. The five themes that scaffold the conceptual framework are explicated, including challenging unjust structures, the common good, collaborative courage, community-centered, and individual goodness. The implications of this framework and theory of change are discussed as well as a call to re-center relationships in the community engagement field.

**Keywords:** community engagement, hope, faith-based, practitioner-scholar, critical inquiry

## Introduction

As community engagement scholar-practitioners, who sought to interrogate the intersection of community engagement and faith at urban institutions, we delved into editing a special issue of *Metropolitan Universities* Journal (Volume 31, Issue 3) published in December 2020. Our inquiry into this topic led us to develop an exploratory study based on our work with faith-based organizations and communities, considering our own experiences as community engagement professionals (Dostilio, 2017), and critically reflecting upon how such work is rife with tension, inequities, and systemic injustice. The context of a global pandemic, racial justice movement, and politically divisive environment was certainly addressed during the planning and delivery of that publication, but the deliberation among our co-editing team was more broadly focused on how we, as community engagement professionals, continue to engage in the center of this tension-filled context, as well as beyond it. We were encouraged by the work of faith-based community organizations, non-profits, and higher education institutions, and were especially inspired by faith-based work led by Black churches and Latinx communities. We were also informed by the work of these faith-based organizations in spite of the challenging context in which we were all living and working. Our reflections returned to core questions: How do we continue to do the work of community engagement as we unravel the racial injustice and systemic inequity pervasive in our communities and social structures? How do we keep our focus, returning to engagement work with community partners at the center, in the face of such challenges? And how do we expand from a Judeo-Christian framework of understanding? Taking cues from faith-based community organizations who have worked extensively through this lens of experience, we called for an engagement of hope (Green, Stewart, Bergen, & Nayve, 2020). It is through this recent exploratory study on the intersection of faith and community engagement that we return to our practice and further explore the concept of an engagement of hope. As practitioner-scholars, this exploration serves as a journey of discovery into our practice and leads us to our current line of inquiry.

Our inquiry emerges from the intersectional context of faith and community engagement, as scholar-practitioners and community engagement professionals who all work at faith-based institutions, as well as working extensively with faith-based communities and organizations (e.g. churches, non-profit organizations, community centers, interfaith groups, etc.). As community engagement professionals, we contextualize our roles and practice, extending critical inquiry into community engagement work, given the need for more research since "what needs to be further clarified and promoted is the nature, role, and perspective of the individuals who staff, lead, direct, and advance these [community engagement] spaces" (Dostilio and Perry, 2017, p. 12). From this demand for perspectives from community engagement professionals, we situated our inquiry into our practice, and we explored our context of community engagement. Inspired and informed by faith-based community engagement, our inquiry continued after the publication was released through deliberations and critical reflections, as we continued to interrogate the concept of an engagement of hope. The purpose of our ongoing dialogue and critical reflections were to

clarify this concept, providing both definition and explanation of an engagement of hope. In addition, we sought to honor its emergence from faith-based community engagement work, while also exploring its generalizability to community engagement broadly, building upon and differentiating it from other frameworks.

For example, the concept of hope is complex, and when connected to engagement, it potentially alters the paradigm. Hope is not superfluous, nor a dismissively fleeting aspiration, and as the Slovene poet, Boris Novak, states in his poem, "Decisions:" "Between hope and despair / choose hope / It will be harder to bear" (Novak, 2006).

The final line of Novak's poem demonstrates the gravitas and weight of hope. To hope is to challenge oneself to believe in what one does not know or see. Desmond Tutu has been famously quoted that "Hope is being able to see that there is light despite all of the darkness" (Tutu, 2016) and Cornel West stated that while he does often feel despair, as a "prisoner of hope," he suggests, "never allow despair to have the last word" (West, 2021). In essence, the concept of hope is not a superficial construct, but rather a complex response difficult to carry, such as virtuous hope emphasizing the goodness of individuals (Pieper, 1997). Freire states, without a minimum of hope, we cannot so much as start the struggle. But without the struggle, hope, as an ontological need, dissipates, loses its bearings, and turns into hopelessness. And hopelessness can become tragic despair. Hence the need for a kind of education in hope (2007, p. 3). We wanted to unpack this tension within the construct of an engagement of hope. Through the lens of collaborative inquiry, rooted in critical reflection as scholar-practitioners, we explore this concept of an engagement of hope, more fully developing a conceptual framework emerging into an actionable theory of change.

## Methodology

Our methodological approach to this study involved collaborative inquiry upon the emerging concept of an engagement of hope in the context of our practitioner-scholar research. McReynolds (2015) writes, "Practitioner-Scholars have the unique ability to perceive deficiencies in current theories and practices. Their research and best pedagogical knowledge are needed to challenge and drive the development of a stronger academy" (p.4). Drawing from our framing article in which our call to action included turning toward an engagement of hope (Green, et al., 2020), we sought to critically reflect on this concept in order to describe its meaning in action and explain it in more detail. Our guiding questions included:

1) What do we mean by an engagement of hope collectively?
2) What are 3 - 5 characteristics or criteria that help us define this idea?
3) How do we enact this concept of an engagement of hope in our community engagement work?

4) In the midst of tension-filled, challenging work of facing inequalities and injustice, how do we continue to immerse ourselves in community engagement?

These questions emerged through our discussions and deliberations as we continued to pursue our exploration of this concept. We turned to qualitative inquiry, which focuses on meaning making and understanding through methodological and systematic approaches.

To further explore this concept of an engagement of hope, especially to describe and explain its meaning, we relied on the qualitative approach of collaborative inquiry (Donohoo, 2013). As an inclusive research methodology, collaborative inquiry involves participants as co-inquirers who are experts of their own lives and co-construct the research through active engagement in cycles of reflection (Bridges and McGee, 2011). This approach centers our questions about our own learning experiences in the context of community engagement (Bray, Lee, Smith, & Yorks, 2000). Such a qualitative approach is essential for our exploration because collaborative inquiry:

> ...assumes that understanding and improving the human condition requires an approach that honors a holistic perspective on what constitutes valid knowledge. Effective collaborative inquiry demystifies research and treats it as a form of learning that should be accessible by everyone interested in gaining a better understanding of his or her world. (Bray, Lee, Smith, & Yorks, 2000, p. 3).

This approach to human inquiry is foundational to our study as we sought to interrogate the concept of an engagement of hope in order to gain a better understanding through ongoing reflection. As we each individually and collectively reflected on the engagement of hope within our own universities, communities of engagement, and personal lives, it brought to mind how human inquiry is participative, experiential, political, and action oriented (Reason, 1996, p.15). This concept expands through Reason's work, *Reflections on the Purposes of Human Inquiry* where he states:

> Quality human inquiry starts not with a concern for theory or knowledge but from engagement with the reality of people's lives and how they live and experience them . . . concern for knowledge arises from this practical concern to help people make better sense of their lives and create more and better possibilities in their lives. Although it may be influenced by our own life quest, we must start from questions of experience, need, and practice as defined by the people with and for whom we are working. Human inquiry is thus essentially in-service. (Reason, 1996, p. 20)

This inquiry approach also relied heavily on Rendon's (2014) framework within *Sentipensante (Thinking/Feeling) Pedagogy*, in which transpersonal research deepens the narrative process and positions each author as co-researcher and partner "who turned to each other in truth while we

attempt to open the interhuman nature of the experience" (pp. 52-53). Within a faith-based context, this approach aligns with Ignatian contemplation, as considered by George Bernanos in the *Diary of a Country Priest,* and further emphasized by Modras in *Ignatian Humanism*. Ignatian contemplation:

> …brings all the instruments into a final three-note crescendo [235-7]. First realize that all creation--everything we are and have and see--is given as a token of God's self-gift. Second, realize that God is present in all creation--dwelling in the elements, plants, animals and us. Finally, realize that God is not only present but "laboring" in all that exists--creating, conserving, concurring. In each of the concluding three points of the contemplation, Ignatius writes, "I will reflect on myself." (Modras, 2004, p. 32)

Collaborative inquiry allows the space and necessary reflection to enable deeper considerations of our own relationships with our work; and, Ignatian contemplation invites the consideration of God's presence in our efforts, before it posits the need to reflect on oneself. Further, this reflective practitioner approach emerges from several faith-based perspectives and affirms the need for continued self-reflection and discernment as we engage our communities.

Our reflection questions emerged from our roles as practitioner-scholars of community engagement. Dostilio and Perry (2017) frame the role of community engagement professionals as multidimensional given the complexity of the work, sometimes serving as tempered radicals, transformational leaders, and social entrepreneurs, as we work within our institutions and our local communities. We identify as third-space professionals who often work in the blurred spaces with one foot in the community and one foot in the academy (Whitchurch, 2013). Such roles allow us to cross boundaries between classroom and community, between research and pedagogy, between student learning and community impact, leading to our hybrid roles as scholars and practitioners (Green, Eddins, Berkey, & Meixner, 2018). Thus, our reflection questions emerged from our practice, our professional experiences, and our perspectives on working in and with community organizations.

While there is a considerable amount of excitement and joy in the work of engagement, our experiences connecting and engaging with our communities can be filled with challenges, and we explore how we approach the barriers, challenges, and realities in which we work and live. The source of our inquiry is our practice, and a key function of the practitioner-scholar is to adopt an inquiry stance related to practice (Lytle, 2008). Practitioner-scholar research also connects issues within the practice to the context of the practice and established research methods of inquiry (Salipante and Aram, 2003). Practitioner research is often described as a methodological approach that integrates theory, practice, and research, while also fostering critical reflection on practice through systematic inquiry (Ravitch, 2014). The reflection

questions guided our collaborative inquiry as we interrogated our practice and facilitated a methodological investigation into the concept of an engagement of hope.

We each shared our own stories of engagement within our respective communities which Mezirow (1990) refers to as a process of learning as a way to engage in critical self-reflection, which can lead to personal and societal transformation:

> This process of critical reflection has the potential for profoundly changing the way we make sense of our experience in the world, other people, and ourselves. Such transformative learning, in turn, leads to action that can significantly affect the character of our interpersonal relationships, the organization in which we work and socialize, and the socioeconomic system itself (Mezirow, 1990, p.xiii).

Because we each worked and lived in different cities and states, including Illinois, Wisconsin, and California, we conducted multiple virtual meetings to deliberate and dialogue about this concept. During our meetings, we conducted a thematic analysis of our critical reflections through categorizing and coding our reflections (Clandenin & Connelly, 2000; Creswell, 2012; Rendon, 2014; Green, et al., 2018). We established key themes and identified essential principles that anchor the ideas that emerged. We triangulated the themes, established definitions, and generated a heuristic that represented our findings. We continued to reflect in an emergent, iterative process on this concept. We conducted two virtual feedback sessions for one hour each, both of which were interactive workshops sponsored by professional organizations, the Coalition of Urban and Metropolitan Universities and the Association of Jesuit Colleges and Universities which included professionals in the community engagement field, to identify if the emerging themes connected with their experiences and animated their engagement work. These feedback sessions allowed us to validate the themes with professionals in the field. Our collaborative inquiry process concluded with several professionals requesting information on the concept to foster dialogue, and the affirmative responses confirmed that this concept resonated with other community engagement professionals.

## Presentation of a Conceptual Framework and Emerging Equity-Focused Theory of Change

Our thematic analysis suggested core approaches to community engagement and five key themes that emerged from our critical reflections, deliberation and dialogue, observations working with faith-based community partners, as well as feedback sessions. What emerged was a conceptual framework that elucidated a community engagement strategy for action and emerged into an actionable and equity focused theory of change. Blaxter et al. (1996) explained that the components of a conceptual framework include concepts and contexts that define the scope of the inquiry, while also suggesting methods and theories to apply in the framework. A conceptual framework is historically defined as an iteration of a researcher's inquiry that may evolve as the

inquiry evolves, as well as a structure for organizing ideas (Leshem & Trafford, 2007). In addition, Punch (2000) suggests that such frameworks represent the conceptual status of the topics at hand and their relationship to each other.

Connell and Kubisch (1998) explained that a theory of change is outcomes-focused and evaluation-centered, linking activities, outcomes, and contexts to organizational leadership and strategy (Connell and Kubisch, 1998; Dubow and Litzler, 2018). In addition, a theory of change approach, in relation to community initiatives, focuses on planning and implementation, and a theory of change needs to be plausible, doable, and testable (Connell and Kubisch, 1998). Reinholz and Andrews (2020) define a theory of change, which was a phrase popularized by the Aspen Institute and often utilized in the context of complex community initiatives centered around social change, as "…a tool to help clearly articulate underlying assumptions from the offset. The *process* of creating the theory of change allows a team to reach consensus on its underlying assumptions, which are then codified in an explicit *product* (often displayed as a diagram)" (p. 1).

The engagement of hope model centralizes equity within the theory of change in order to be held accountable to a broad range of stakeholders traditionally excluded in traditional theory of change models. Animated by the *Impact of Community Engagement Model*, developed by Nexus Community Partners, the engagement of hope change model bridges equity and community engagement by including the following values in their participatory change model: culture, spirituality, healing, history, identity, power, relationships, and trust. As scholar-practitioners conducting collaborative inquiry into the concept of an engagement of hope, we analyzed our data from our reflection and dialogue, developed a conceptual framework that defined key criteria, and created an equity-focused theory of change explicitly codified in Figure 1.

***Figure 1.*** An Engagement of Hope Conceptual Framework and Equity-Focused Theory of Change

**Engagement of Hope**
**Strategy for Action in Community Engagement**
*Foundational approaches for an actionable, equity-centered theory of change that:*

- Addresses community engagement sitting in the center of the tension
- Centers multiple voices and lived experiences
- Prioritizes relationships over transactions
- Anchored in faith-based work in which God is at work in all things and that we live in a universe of grace
- Recognizes the difficult practice that requires sustenance (community of support)
- Facing difficult issues, we approach with a passion for the possible

To explicate the framework and theory of change, in the next section, we will explain the foundational approaches that serve as core pillars in approaching community engagement that undergird the framework. Next, we explore the five themes and provide definitive characteristics of each theme that scaffolds the conceptual framework of an engagement of hope leading to a theory of change. Lastly, we discuss implications for practice in the community engagement field.

## Core Pillars for Approaching Community Engagement

As we continued to deliberate and dialogue on this topic, we also continued to write, iterate, and reflect on the concept of an engagement of hope. Our discussion centered around core assumptions, contexts, and pillars of thought to which we continually returned. We termed these core pillars for approaching community engagement because they were approaches of community engagement that emerged from the study of our practice. Considering approaches of community engagement, an engagement of hope: addresses community engagement that balances the tension of institutional practices and recognizing inequity and injustice; centers multiple voices and lived experiences; prioritizes relationships over transactions; anchors in faith-based work in which God is at work in all things and that we live in a universe of grace; recognizes the difficult practice that requires sustenance (community of support); facing difficult issues, approaches community engagement with a passion for the possible. These approaches of community engagement are further explicated through our critical inquiry and critical reflections below.

### Addresses community engagement sitting in the center of the tension

From the beginning, our reflections identified an engagement of hope within the tension derived from community engagement that recognizes inequity and injustice. This was rooted in our prior study based on narrative inquiry: "This exploratory study led us to deeply and critically examine the concept of hope situated alongside community engagement in the context of the institutional tensions, historical legacies of inequity and racial injustice, and the communities' multiple voices." (Green, Stewart, Bergen, & Nayve, 2020). An engagement of hope understands and appreciates the need for tension, one of the most critical aspects of Jesuit spirituality, as defined by Barry, S.J. and Doherty, S.J. in *Contemplatives in Action: The Jesuit Way*. While Barry and Doherty focus on very specific tensions within the Jesuit way of life—trust in God and trust in one's own talents, prayer and action, companionship and mission, obedience and learning from experience, the center and the periphery, poverty and use of the world's goods, chastity and affective friendship—their overall message feels deeply applicable to an engagement of hope. Specifically, "Jesuit spirituality functions best when these tensions are alive, and clearly felt, that is when Jesuits experience themselves in the pulls of both sides of each polarity" (7).

Centers multiple voices and lived experiences

This engagement of hope engages multiple voices as well as a variety of lived experiences which lead to the next foundational approach principle. There are many examples, including other faith based communities, non-profit organizations, universities and community stakeholders/residents, providing an engagement of hope where everyone is invited to sit at the table and allow their voices to be heard. It is reminiscent of African American poet, Langston Hughes, and how he expresses this hope in his poem entitled, "I, Too."

> I, too, sing America
> I am the darker brother.
> They send me to eat in the kitchen
> When company comes
> But I laugh.
> And eat well.
> And grow strong.
>
> Tomorrow,
> I'll be at the table
> When company comes
> Nobody 'll dare
> Say to me
> "Eat in the kitchn,"
> Then
> Besides
> They'll see how beautiful I am
> And be ashamed -
> I, too, am America
> (Hughes, 1994)

The poem reminds us of the stark reality in which many experiences have not been historically recognized, and an engagement of hope challenges us to recognize differences and dialogue across those recognized differences. As Nancy Cantor (2004) stated, "To lead the way toward fulfilling this hope, we in higher education must figure out how to sit together around our table and engage with difference."

As authors and community engagement practitioners, we wrestled with the tensions and questions inherent in earnestly attempting to integrate multiple voices and lived experiences in community-engaged work, and yet realized that we may never fully accomplish this task. In our original article we committed to "[elevating] the voices of our various community partners, as

well as recognize our own privileged voices, we as an editorial team seek to frame this introductory thought piece from the perspective of (1) honoring the variety of faith traditions, (2) our scholar-practitioner approach to this exploratory study, (3) our own faith journey related to our professional role, and (4) our goal to be collaborative co-educators with community members. As co-authors we share a common faith tradition, and therefore, we do not want to speak on behalf of other faith traditions" (Green, Stewart, Bergen, & Nayve, 2020). The contemporary challenge of integrating multiple voices and experiences is not the recognition that doing so is critical to the practice of engagement, but rather the challenge lies in whose voices and experiences are elevated and prioritized over others. The engagement of hope model is an epistemology that is participatory and collective that intentionally integrates an equity-focused theory of change that serves to lift up and recognize multiple voices and lived experiences (Nexus Community Partners).

### Prioritizes relationships over transactions

Higher education institutions that foster community engagement within urban communities have to consider whether the partnerships are transformational versus transactional. Enos and Morton (2003) state that transactions are temporary and they originate from the understanding that each partner has something that the other needs, and, therefore, each party collaborates with the other to exchange these resources within existing structures, work, and personnel. Although devoid of commitment, a successful transactional relationship will satisfy some of the needs of all parties. Within a university-community partnership, this often means that each party simply uses the other to meet an immediate need, and then breaks off the relationship when their needs are exhausted. Although short-term partnerships can address acute needs (Bringle & Hatcher 2002, p. 511), from the community's perspective, their needs often remain. These acute community partner needs became painfully evident during the global pandemic. As academic institutions faced uncertain enrollment and declining endowments due to market forces, many universities furloughed staff and cut programs and services. There were numerous examples of academic institutions with transactional community partnerships with their communities providing cursory responses to urgent needs. However, there were fewer examples of transformational campus/community partnerships that truly responded to the societal impacts of the global pandemic and calls for dismantling systemic oppression and inequity. The most powerful stories centered on community-focused mutual aid networks, in which neighbors often checked in on each other and addressed issues of social isolation. This is what the engagement of hope looks like in action.

For many universities who engage in relationships with community partners, community engagement is framed to include the concept of "working with" and not "working for" the community. This challenges the university entering communities with a savior mentality, and encourages an approach to seek the greater good within the community by first allowing the voice of the stakeholders within the community to share their wants and needs. This approach to

community engagement seeks to understand the presence of God in every person, listening with humility, not to advance a particular objective or outcome, but rather to participate authentically in the shared laboring for the greater good. As emphasized in our previous article, Salter-McNeil encourages faith communities to "… come out of their individualism and come together as a community to make and execute a plan based on a united vision for the future." In the context of community, they should find the support, courage, and accountability to imagine and work toward a world different from the one we currently live in (Salter-McNeil, p. 192-193). This defined a foundational principle within an engagement of hope, because it focuses on building relationships for support, courage, and accountability.

In reflecting upon this notion of "working with," or accompaniment with others, our critical reflections invited us into deeper dialogue around the role of our personal and professional motivations in the work of community engagement. One of our community partners reminds us of the need for persistent reflection and discernment as to why we are participating in this work:

> I sit across the table from one of the original NAACP Youth Commandos who led the 1968 Marches on Milwaukee in a bank-building-turned-diner called Coffee Makes You Black. 70 years of life has not dulled his activist tendencies, nor has it stilted his stature. He is a tall, African-American man, with a deep, graveled, voice. We are meeting to discuss his possible participation in an event we are hosting recognizing the 50th Anniversary of the Fair Housing Marches, a key moment in our city's, and nation's history. My intent is to partner with the local coordinating group, faculty members, and students to invite deeper campus discussions and explorations around the history of the movement, and the current moment in our city. The pause comes, and he leans forward. The questions are delivered in quick succession, with an intensity, and honesty that feels deeply personal.
>
> "What is your motivation? Why are you doing this?"
>
> As a white male, born and raised in a suburb of Milwaukee, the Catholic tradition informed much of my upbringing. I attended K-8 and high school at Catholic schools, and, while my undergraduate and master's degree were completed at two public universities, I had always longed to return to an educational setting that invited the exploration of faith as a component of the whole person. As I completed my master's in Cultural Studies, and was searching for my first position, I was excited when an opportunity opened up at Marquette University, a Catholic, Jesuit institution located in the urban heart of Milwaukee, Wisconsin. My return to Catholic education, and its strong mission-driven orientation, aligned with my values and religious upbringing, but I was unaware at the time how fully the expression of my faith would be ignited through the Jesuit charism and community engagement. The questions posed above by my

> community partner resonate at a professional and personal level because they are precisely the place from which I think we should begin our approaches in community engagement, and personal prayer around decision-making. In the Jesuit tradition, when a decision is being considered, the utilization of discernment allows us to more fully enter into and understand our motivations, paying attention to the gentle movements of the Spirit within us. My race, gender, historical background, faith, and institutional affiliation form a context for my motivations in every moment of engagement with this partner. To approach community engagement authentically, I need to continually discern the motivations, and perhaps more importantly, my professional and personal interest in pursuing and forming engaged relationships. [DB] (Green, Stewart, Bergen, & Nayve, 2020).

To fully appreciate an engagement of hope, it is critical to be able to clearly and honestly articulate our motivations, not only for ourselves but for our partners as well. A failure to acknowledge and appreciate our motivations could lead to inauthenticity in our relationships and the subsequent potential for negative or even harmful outcomes. The question is how to intentionally frame these connections and relationships in a way that creates "coherent wholes" rather than atomized transactions (Del Rio, Loggins 2019). In prioritizing relationships in community engagement, we do not seek to ignore transactions, nor demonize them, but rather we acknowledge transactions as necessary aspects of engagement when mutually agreed upon. The challenge is to clearly and consciously articulate our motivations to move toward coherent wholes and relationship-affirming outcomes, acknowledging and moving beyond transactions.

### Anchored in faith-based work in which God is at work in all things and that we live in a universe of grace

One of the key components of Ignatian Spirituality according to Modras is engagement with culture: "A God at work in all things can be found on a stage as well as in a sanctuary. . . We live in a universe of grace" (Modras, p. 83-84). If we believe that God is at work in all things and that we live in a universe of grace, then it follows that our engagement should be ignited by hope derived through that faith in God's presence. Our communities comprise broad and diverse perspectives, ideas, religious beliefs, political views, motivations, and interests. Often it can be easier to identify and align with those organizations that most closely reflect our personal or institutional perspectives; however, community engagement often complicates the tidiness of such alignments. In these moments it is helpful to recall that, "for Ignatian Spirituality, nothing human is merely human. And no enterprise, no matter how secular, is merely secular" (Modras, p. 84), God is at work in all things, and grace is ubiquitous.

### Recognizes the difficult practice that requires sustenance (community of support)

In considering efforts in community engagement, we must acknowledge that hope gives us sustenance in work that can be considerably difficult. Nouwen states it clearly: "I cannot always

find the light, or walk in the light of God. I need the love and support of my brothers and sisters in the community of faith" (Nouwen, 28). Our reflections and inquiry process included observations that community engagement work is persistent, resilient, and courageous because the focus is on the creation of good emerging from change.

Practitioner-scholars have ample opportunities to access communities of support, through programs or professional organizations committed to community engagement, such as the Coalition of Urban and Metropolitan Universities (CUMU), Campus Compact, the International Association for Research on Service-Learning and Community Engagement (IARSLCE), the Place Based Justice Network, or the National Society for Experiential Education (NSEE). There are also organizations that create a community of mission-aligned institutions that may embrace faith and hope as central to practice, such as the Association of Jesuit Colleges and Universities (AJCU). There are other organizations and programs dedicated to creating a community of community engagement professionals, such as the Practitioner-Scholar Community of IARSLCE or the Engaged Scholars Consortium. Lastly, communities of support may emerge from the community-based collaborators and non-profit community organization partners that share faith and hope as motivation. Through these many opportunities, community engagement professionals may find a community of support to sustain us through this difficult work.

### Facing difficult issues, we approach with "a passion for the possible"

Steindl-Rast considers the concluding statement, "a passion for the possible," of William Sloane Coffin's autobiography, *Once to Every Man*, as an invitation to consider how we must approach the crucial issues we face every day. Steindl-Rast states,

> As we go forward, the apparent limits of the possible will be pushed back further and further into the region of the seemingly impossible. Sooner or later we realize that the possible has no fixed limits. [...] The exploration animated by a passion for the possible is, of course, our religious quest, spurred on by the restlessness of our human heart. Hope makes our religious quest what it is. The very notion of quest implies hope. (Steindl-Rast, p. 125)

## Five Themes of an Engagement of Hope

The following five themes emerged through our collaborative inquiry as we analyzed our reflections, deliberated, and interrogated this notion of an engagement of hope. Rooted in our observations working with non-profit organizations (often faith-based), as well as our professional experiences in the community engagement field, these themes define and shape an engagement of hope.

## Challenging Unjust Structures

As stated previously, a foundational principle of an engagement of hope is the tension derived from community engagement that recognizes inequity and injustice. This requires us to acknowledge institutional racism and inequity, to accept our role within the unjust systems in which we participate, and then to challenge them in practice, policy, and position. As anchor institutions we are called to provide educational practices within and outside the walls of our institutions through community partnerships which are mutually reciprocal relationships where faculty, community residents, and community organizations are co-educators to create a just society for everyone.

Rigorous academic experiences should not only enhance the development of all college students, they should also disrupt existing inequalities by bolstering students who have been historically marginalized or excluded from higher education (Bowman and Culver 2018). Increasing social and economic equity is just one way that effectual instructional practices promote the public good. Other societal benefits include improving local communities through partnerships, preparing students to be educated citizens of diverse societies and empowering them to identify and challenge systems of inequality (Trolian and Culver, 2020). This is how universities can provide an engagement of hope which is characterized by the honest and persistent work of faith communities that elevate the voices of people, challenge unjust structures, and integrate community histories with the potential and possibility for a better future.

## The Common Good

Community engagement that is anchored in hope is rooted in the inherent belief of the goodness of people juxtaposed with working toward the aspirational goal of the public good or common good. The tension of the individual versus the good of the community is situated not at odds, but through mutual consideration. Faith-based higher education institutions in partnership with faith or non-faith based community organizations are called to serve the public good. Cantor, Englot, and Higgins (2013) have specifically called on universities to consider how to leverage their unique strengths in order to break down university and community barriers. Matthew Kotchen (2012) states, “Pure public goods have two defining features. One is ‘non-rivalry,’ meaning that one person’s enjoyment of a good does not diminish the ability of other people to enjoy the same good. The other is ‘non-excludability,’ meaning that people cannot be prevented from enjoying the good.”

An engagement of hope is characterized by the honest and persistent work of faith communities that elevate the voices of people, challenge unjust structures, and integrate community histories with the potential and possibility of a better future. Our critical reflections revealed examples of faith-based organizations who exemplified this engagement approach:

As we think about the public good, I am reminded of a Chicago urban community on the Westside of Chicago called North Lawndale. Lawndale Christian Community Church (LCCC) has been the beacon of hope for a once-plighted community filled with poverty, lack of medical care and affordable housing, high rates of recidivism, and food insecurities. In 1978, members of Lawndale Community Church surveyed a group of Lawndale residents about their greatest needs. The residents listed the following: inexpensive health care, basketball gym, improved housing, and competent and affordable legal services. The voice of the people was heard and the following engagement of hope was fulfilled:

- Lawndale Christian Health Center from hope to possibility to reality in 1984.
- Lawndale Christian Development Center was established in 1987 to provide economic development within the community - affordable housing, restaurants, etc. In 2006, they developed the Dr. King Legacy Apartments, Museum, and commercial corridor on the land where Dr. Martin Luther King, Jr. lived while fighting for housing and workers' rights in the 1960's.
- Hope House was established in 1995 as a place of refuge for men reentering society from prison to break the cycle of recidivism and provide shelter and job readiness skills. In the same year, Lou Malnati's Pizzeria, a sit-down restaurant opened which provides employment for local residents and Hope House residents.
- In 2003, the first ever Hip Hop Church was established for the youth in the community and in 2007, the church purchased and renovated an old firehouse and developed an arts community center providing culinary arts, dance and music studio, and workforce development.
- In 2010, Lawndale Christian Legal Center was established providing free legal services for youth and young adults 24 years of age and younger.
- In 2012, to continue to combat health inequity in the community an additional health clinic, fitness center, conference center, and sit down cafe was built.
- In 2019, with a partnership with Chicago Botanical Gardens, Lawndale Health Center built the Farm on Ogden which provides urban agriculture with fresh vegetables for health patients and community residents as well as food security and job placement for youth and formerly incarcerated men and women. In the same year, just a block away, the Lawndale Senior Health Center was built to specifically serve senior residents providing healthcare services and day senior programming.

This example, of a faith based organization who for over 40 years have been intentional about their engagement of hope when they allowed the voice of the residents to dictate

how they would serve the community for the public good. [Critical reflection of Cynthia Stewart]

During one feedback session, this example was presented and a few of the participants commented on what a joy it was to hear good things happening in Chicago in spite of what they hear from the national media about the increase of violence and lack of resources in urban communities.

## Collaborative Courage

Community engagement is an act of courage in and of itself, as it relies on hope for a better future. In his consideration of the value of the community of the church, Ronald Rolheiser references Edward Shillebeeckx: "what we dream alone remains a dream, but what we dream with others can become a reality." Rolheiser goes on to consider the church community in the following way: "Alone, standing apart from community, I am no more powerful than my own personality and charisma, which in a world of six billion--[now closer to 8 billion]--people, will not make much of a difference.[...] The first thing I should do, if I hope to help bring about some justice and peace on this planet, is begin to dream with others within a world-wide body of persons committed to the same dream" (Rolheiser, p. 138-9). The imperative seems clear: we must dream with others through an engagement of hope. Community engagement is collaborative in nature, requiring individuals in different sectors, organizations, communities, and backgrounds to generate, create, produce, and develop together. As previously stated, an engagement of hope is persistent, resilient, and courageous because the focus is on the creation of good; it exemplifies grit.

Faith-based institutions are significant influencers in the community both as institutional structures and the degree to which they develop coalitions in the community. Engaged institutions partner with communities in order to collectively meet both parties' needs, hopes, and desires. Engaged universities embrace communities as equal partners who work with, not for, universities in a mutual exchange to discover new knowledge and promote and apply learning (Karasik, 1993). This collaborative paradigm redefines universities from curators of knowledge to dialectic partners who must reconsider how they operationalize teaching for the benefit of all (Torres, 2000)—"a successful collaborative process [that] enables a group of people and organizations to combine the complementary knowledge, skills and resources so they can accomplish more together than they can on their own" (Center for the Advancement of Collaborative Strategies and Health, 2002, p. 2).

**Community-Centered**

An engagement of hope is community-centered, emerging from community knowledge, experience, voice, trust, and ideation. Such engagement recognizes community histories and honors them with a seat at the table. Because such engagement is consistently working toward the aspirational goal of the common good, the community is the center point and anchor to ground engagement in form, practice, and delivery. Leiderman and colleagues (2002) found that a commitment to ensure mutual benefit leads to the development of trust and accountability in a community partnership. Trust is a critical component of community partnerships, and Schulz and colleagues (2003) consider the role of mutual trust in assessing the effectiveness of participatory research partnerships. These relationships are built on a two-way exchange that explicitly seeks mutual benefit and, ultimately, transformation (Dostilio, p.169). Our critical reflections animated this as we explored this theme of community-centered from the lens of an engagement of hope:

> Jennifer Turner, affectionately known as Mama J, is an iconic culture bearer, historian, and storyteller for over three decades with the Community Book Center (CBC) in New Orleans. Hundreds of university students have visited the CBC and Mama J often will ask them, "What do you get, and what does the community get?" Her question echoes sentiments from community voices who have grown weary of the expression of mutually beneficial relationships without experiencing the embodied actions and behaviors of true reciprocity.
>
> An equity and community-centered theory of change understands this polarity and approaches it like the "practice of joining" developed by Esteban Del Rio and John Loggins are critical to creating social cohesion to enact and embody change (Del Rio, Loggins 2019). The practice of joining draws from critical service-learning in that there is an attentiveness to both pedagogy and a reflective process (Mitchell 2008). Del Rio and Loggins suggest that a joining practice must integrate mindfulness in order to be fully present and accepting of what emerges in community engaged work (Del Rio, Loggins 2019) and they suggest the following process:
>
> - Reflect on the habits and assumptions, conditions, and purposes that guide individual and institutional actions, attitudes, behaviors
> - Discern which of those support the anchor mission and those that undermine the anchor mission
> - Identify changes necessary in strategy, but also in work routines and mental frameworks (personal and professional habits and assumptions that inform individual and collective work, and the conditions and purposes of that work)

- Commit to collectively setting the purpose and creating the conditions for culture change. Do so by empowering faculty, staff, students, and most importantly, community partners
- Assess: it is most useful to discern outcomes and assessment of critical commitments as part of the normal assessment procedure
- Repeat: this last point returns to the beginning of the cycle and closes the loop for what should be an ongoing process. People always make meaning, and as flexible and mutable as culture can be, it also persists through the routines of everyday life. (Critical reflection of Chris Nayve)

## Individual Goodness

An engagement of hope clearly focuses on the experience, knowledge, skills, and gifts of the individual. It elevates the voice and experience of individuals, and it is rooted in the inherent belief of the goodness of people as well as working toward the aspirational goal of the public good or common good. The emphasis on individual goodness stems from the early work of McKnight and Kretzmann (1993) who coined the term Asset Based Community Development (ABCD) in the late 1980s. While service providers and academics went into urban communities plagued with poverty, disinvestment, poor health, racism, oppression, crime, and lack of resources, their response was to provide a need-based approach, which focused on what communities lacked, deficiency, scarcity, and need. This approach did not provide hope, but continued the cycle of shame and hopelessness within many urban communities. McKnight and Kretzmann's ABCD model of community engagement changed the way that service providers and academics entered into urban communities, and they shifted the focus on the assets, including the knowledge, skills, and gifts of the residents within that community. Luther Snow (2014) in his chapter *Assets, Innovation, and Academia*, reflects on McKnight and Kretzmann's concept of framing good in urban communities as assets, rather than deficiencies:

> They noticed the good in communities. They observed that sometimes residents were getting things done together that the outside professionals could not accomplish. They saw community-based organizing, economic development, health promotion, teaching and learning, sharing and networking. And wherever something good was going on in communities, they realized that folks were not focused on needs. Instead, they focused on assets. They reflected on their gifts, passion and talents, rather than their deficiencies. They took the reins of their associations, groups, and organizations, instead of depending on outside agencies. They appreciated the physical and economic assets in their communities, and figured out what they could do by connecting those assets in new ways. (Snow, p. 33)

An engagement of hope elevates this critical shift to not only recognize the goodness of individuals within communities, but also the experience of individuals living in the community.

For example, Mitchell (2008) challenges us to move toward critical service-learning pedagogy because it raises a critical consciousness of the individual learner in the community as well as the experience of individuals living in the community:

> Critical service-learning pedagogy fosters a critical consciousness, allowing students to combine action and reflection in classroom and community to examine both the historical precedents of the social problems addressed in their service placements and the impact of their personal action/inaction in maintaining and transforming those problems. This analysis allows students to connect their own lives to the lives of those with whom they work in their service experiences. (p. 54)

The tension, or polarity, of the common good juxtaposed with individual goodness is not elements that are at odds within community engagement, but rather elements that are both important and ideals of engagement. Critical service-learning pedagogy captures this as it "encourages contemplation on both personal and institutional contributions to social problems and measures that may lead to social change" (Mitchell, 2008, p. 54).

Faith-based non-profit organizations and churches lead in this area of honoring individual goodness through their programs and services. Our critical reflections demonstrated many examples to animate this work:

> The work of Taller de José in the Little Village community of Chicago, a primarily Latinx community, often referred to as "Little Mexico," demonstrates how a faith-based non-profit organization models and emphasizes the goodness of individuals in the community. I have learned so much working with them. Supported by the Congregation of St. Joseph, this organization focuses on accompaniment -- walking with individuals in the community to address their needs and connect them to the resources required to meet those needs.
>
> As I reflect, I am reminded that their model of accompaniment is a way to address and elevate individual goodness. The mission of this organization states it clearly: "Taller de José accompanies individuals, serving as a bridge to connect them to the health, legal, and social services needed to achieve their goals. As a member of the Congregation of St. Joseph Mission Network, we create more connected communities." (Taller De José) The vision statement, however, articulates an emphasis on both social justice and elevating the dignity of each individual:

By fostering the model of accompaniment, Taller de José:

- Challenges social structure in order to create a culture of inclusivity and mutuality
- Creates, maintains, and supports just relationships with individuals and organizations
- Seeks to create systemic change to promote a more just and equitable society
- Cultivates a consciousness of the inherent worth of each person

( Taller De José)

> The staff of this organization (called companeras/os) literally physically and emotionally walk alongside community members as they navigate complex systems (legal system, hospitals, immigration, social services) and connect the community members to resources. As they support each individual that comes to their doors, they approach them as the "dear neighbor" -- a core value of the sisters who comprise the Congregation of St. Joseph-- and honor their individual experiences, priorities, issues, and strengths. They walk with them, wherever they may need to go. They wait with them, sometimes for hours. They translate for them and help them find the buildings and offices in this large, complex city of Chicago. And most of all, they listen to each person - for what they want and need, for what they hope and dream. Their work and the impact they have on the Chicago community - one person at a time- reminds me to center individual goodness in my work every day. The work of Taller de José, and the sisters within the Congregation of St. Joseph, who founded it, remind me there is an actionable way to center individual goodness too - we merely need to walk alongside and accompany each other. [Critical reflection of Patrick Green]

It is the work of many faith-based community organizations that serve as models and activate these five themes through their programs and services.

## Implications: Moving the community engagement field

The engagement of hope is a conceptual framework and equity-focused theory of change model rooted in faith-based work, and reflexively moves beyond community engagement at faith-based institutions. It is applicable to community engagement approaches at all institutions, public or private, community college or four-year universities. It builds upon past and current community engagement frameworks, but responds to the current context of higher education. In effect, an engagement of hope framework proposes that we learn together and develop shared understandings within the complex contexts of our practice, whether that be faith, social justice, urban, rural, or constituency-based.

The community engagement field has long been focused on institutionalizing the work in the higher education sector. In an effort to legitimize service-learning and community engagement, early adopters demonstrated its effectiveness through evidence-based studies, built a canon of literature throughout the past several decades, fostered numerous resources for practice, and developed professional organizations. A second generation of scholars have emerged, and a third generation of early career scholar-practitioners have now contributed extensively to the field. Yet the focus on institutionalization, organizational structures, and higher education course development has long been the point of entry. This surfaced during both of our feedback sessions with professionals in community engagement, and the focus has historically been on the service activity. The feedback from professionals during these sessions was not only affirmative validating the resonance of this framework, but also noted how this framework changes the narrative of community engagement. For example, in one of the interactive feedback sessions, distinguished scholar of community engagement, Barbara Holland noted the engagement of hope framework alters the interpretation of community engagement:

> "From the early beginnings of higher education engagement in community partnerships, campus-based organizers tended to focus mostly on the details and stresses of launching and delivery the activities. The necessary attention to preparation, logistics, and delivery could be overwhelming, leading to a view that a completed activity was a successful activity. The incredibly thin staffing and budgeting for community-based student learning programs certainly did not provide much of a base for critical assessment or formal research on the impacts on students or communities…good, bad, or indifferent. Without a formal and ongoing campus/community dialogue, engagement was largely supported by interested faculty with a particular passion for engagement. This framework, by introducing hope and faith into the dialogue between higher education and communities, describes a potential path that may lead to new methods of campus/community dialogue that lead to specific initiatives that aim to create lasting change and improvements in communities. The focus on the essence of hope may help lead higher education engagement practices to be more successful in creating engagement initiatives that are co-developed in ways that fulfill the visions and goals of all involved." (CUMU Learning and Sharing series: Expanding Your Work through an Engagement of Hope Interactive Workshop, May 13, 2021; personal communication, June 28, 2021)

As Holland notes, emphasis has traditionally been on institutionalizing the activity of community engagement. This may emerge from a service-learning course or a community engagement program at the institution of higher education. The location of community engagement has been from the institution to the community, although many place-based community engagement initiatives have tried to challenge this approach. The conceptual framework and theory of change evolving from an engagement of hope, with its emphasis on co-development, is a departure from this common point of entry; it is not, however, a side door or alternative gateway. It is a different

place, rather, a new location; a community engagement of hope is seeking a new landscape, altogether, in the blurred spaces between communities and institutions.

The implications of this theory of change is moving the community engagement field to build upon its current strengths and to re-center its focus addressing community outcomes and impact and de-center the activity. It is important to frame this article within the context of the global health pandemic, current racial justice movements, and deepening challenges to democratic structures in society. While these social issues have long plagued society, it is clear we are in a unique moment in history where the intersection and impacts of these social issues have very real immediate impacts, and unforeseen generational consequences. For these reasons, the engagement of hope framework and theory of change rooted in equity is explicitly focused on justice (social, economic, racial, and environmental), and it anchors the community at its core. It challenges traditional notions of knowledge, as community members are elevated as knowers and generators of knowledge. It is boundless, as it challenges us to dream and vision in and with community members. Through this lens, the point of entry is the community, not the academy. Given the new landscape in the community, there may not be a clear map, but there are many guides as our community partners walk with us, and we walk with our community partners.

## Conclusion: Re-centering Relationships amidst Polarities in an Engagement of Hope

In addition to the new point of entry, this theory of change radically centers the individual experience through relationships in community engagement. As practitioner-scholars situated in professional positions related to community engagement, we spend a considerable amount of time listening to faculty, staff, students, and community partners, reading about and researching best practices, and engaging key leaders in the field. Together, each year, we facilitate hundreds of meetings with various key stakeholders, review dozens of books and articles, and engage with expert consultations. Through consistent efforts to create a strategy for more fully institutionalizing community engagement across our institutions, the return to common questions arose around more formal rewards and incentives structures, centralization of departments and offices, broader promotion of initiatives, and additional resources along with staffing to support and elevate the work within the university. In short, the institution is commonly centered on the evolution of the practice, or activity, of community engagement, and thus defined as the entity that needs to evolve and change in pursuit of doing community engagement work better.

The institutional work focused on the activity, systems, structures and/or practice can sometimes slow or deter the relationship work we do and practitioners are called to do. As reflected through our writing process:

> We are facilitating programs, supporting engaged faculty, meeting with community members and residents, and cultivating awareness around historical moments in the city. At the same time, we are laughing with local pastors, crying with residents who are grieving the loss of community members, experiencing resolute anger with local activists, and considering how to move forward the greater good in relationship with others. I find myself reflecting upon the gifts, talents, and influence I have to enact change alongside the gifts, talents, and influence that others bring. Structures and systems can sometimes discourage me; and, people make decisions that disempower some and empower others. The push and pull of the institution and the individual can leave me feeling tired and overwhelmed. And yet, like many of my colleagues, I return. I return to the meetings, the discussions of rewards and incentives structures, the events, the programs, the coffee shops, the planning and the executing. I do so because of the relationships I have developed. (Critical reflection of Dan Bergen)

As noted in this critical reflection, there exists a tension between the individual relationships we cultivate in community engagement work and the institutional systems and structures we attempt to address. During our feedback sessions, multiple community engagement professionals identified how the engagement of hope framework emphasizes intentional interactions. Such intentionality challenges us to focus on relationships in a new way.

Similar to Doherty and Barry's concept of tension in Jesuit spirituality, an engagement of hope "functions best when these tensions are alive, and clearly felt, [...] when [we] experience ourselves in the pulls of both sides of each polarity" (7). The engagement of hope framework moves to a theory of action as we enter into this tension, experiencing the push and pull of such polarities as individual goodness and the common good. If it seems like an oxymoron to center the individual within efforts of community engagement, it is essential to clarify: this is not about centering the power of any one individual, but rather about centering the individual experience while we work toward the public good.

Our inquiry approach became one akin to how some educators consider a problem through "human-centered design thinking." Just as some of the fundamental tenets of this process warrant spending time with people in the environment, resisting being restricted by your own knowledge, considering the whole journey of the relationship or product, and persisting through prototyping, or utilizing collaborative courage in recognizing it takes time to evolve these relationships, our approach centered the human experience of relationship (Human-Centered Design Thinking, September 2, 2021). Our goal in this exploration was to diminish the temptation towards "transactionalism" derived out of a need for efficiency and, subsequently, to further explore the emphasis on relationship.

Scholarly efforts to "institutionalize" community engagement have shifted the focus from the moment of relationship to the institution. This article argues for a radical re-centering of the individual experience of relationship in community engagement. This re-centering is based on the premise that it is time for the community engagement movement to stop trying to justify itself within the constraints of higher education institutions often facing what Andrew J. Hoffman defines as a crisis:

> "Academic research is becoming increasingly irrelevant as the work becomes too insular, the language too opaque, the journals too inaccessible, and the cultural norms of disciplinary boundaries too balkanized. We need to break out of our siloed research communities and bring our work to a world that needs it." (Hoffman, 2021, p. ix)

While engaged faculty members are working to advance their research agendas in partnership with local organizations, it is most often the relationships they discuss when articulating their work in dialogue with others. Our experiences working with faculty and community partners consistently reveal it is the network and connection to one another that proves valuable, whether connecting to other faculty or to community members and organizations.

In other words, an engagement of hope begins with the fundamental calling to serve one another and to be in relationship with each other. As a theory of change, an engagement of hope centers the moment of relationship between two individuals, while holding space for the tension, the push and pull, of the institutional and individual experience, of the common good and individual goodness. As U.S. youth poet laureate, Amanda Gorman, shared in her inaugural poem, "The Hill We Climb," we may all ask "where can we find light in this never-ending shade?" as we have "weathered and witnessed," and more so:

> That even as we grieved, we grew
> That even as we hurt, we hoped
> That even as we tired, we tried

Yet Gorman (2021) reminds us of hope as an actionable theory of change, as she concludes:

> For there is always light,
> if only we're brave enough to see it,
> if only we're brave enough to be it.

Such hope informs, inspires, and catalyzes community engagement work toward outcomes and impact beyond our current measures. In that moment of relationship and connection with each other, and amidst the space for tension, an engagement of hope emerges and has the power to transform us.

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- Lawndale Christian Community Church
- Lawndale Christian Development Center
- Lawndale Dr. Martin Luther King Legacy Apartments
- Lawndale Christian Health Center
- Lawndale Christian Senior Center
- Lawndale Christian Law Center
- The Firehouse Community Arts Center
- Lawndale Farm on Ogden
- Lawndale Christian Community Church Hope House