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How Does Applied Learning Fare Under the Scrutiny of Program Review?

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An educational environment characterized by shrinking fiscal and physical resources has spurred many institutions to undertake comprehensive academic program review. Such a process assesses the performance of programs and prioritizes them for de-emphasis, maintenance, or enhancement. How can applied learning be properly acknowledged within program review? On the macro level, performance criteria can be re-envisioned to reward the pedagogical practices embodied in applied learning. On the micro level, an applied learning assessment instrument is discussed and tested that can provide multidimensional performance data across academic fields.

The ongoing erosion of financial and other resources available to sustain higher education has led to more voluble calls for accountability, especially for public institutions that must prove themselves responsible trustees of ever-scarcer government funds (Michael, 1998). How can an institution responsibly cope with this resource scarcity? The simple, mindless answer is the one corporate America often selects: obliterate the sources of the costs. The most straightforward—and

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shortsighted—method would be to impose horizontal cuts that slice a uniform proportion of expenditures across the board. This cleaver-like approach to expenditure reduction, while simple, is not only imprudent but fails to address systemic misallocations of resources. Horizontal cuts unduly penalize areas that might be centers of excellence while not slicing deeply enough into chronically under-performing or wasteful areas. Even worse, these uniform cuts sidestep the opportunity that lurks beneath financial crisis: the prospect for rigorous self-examination that can reorient an institution toward strategically investing in its future.

Although academic program review has borne many names and is implemented differently on each campus, it can provide a useful alternative to indiscriminate, across-the-board budgetary butchery. If responsibly developed and implemented, academic program review generates an iterative process of self-assessment, clearer focus on goals, and adaptability to change. In all its manifestations, academic program review maintains certain core characteristics. Although their methods may differ, all such reviews emphasize the need to allocate resources in ways that can be justified rationally. The basis for these justifications lies in information gathered about each academic program.

Program review has a retrospective and a prospective function. Retrospectively, it provides information about past performance of academic programs—tangible evidence of historic trends. Prospectively, program review enables an institution to reallocate its resources—all dimensions of resources—in justifiable ways according to the institution's priorities (Dickeson, 2010). Considered from the standpoint of expenditures, program review provides the functional equivalent of research that informs how an institution decides to invest in itself.

This essay consists of two distinct but intertwined components. The macro-level discussion considers how applied learning can be systematically incorporated into academic program review. As subsequent analysis will demonstrate, applied learning has several characteristics that render such pedagogy vulnerable when assessed by many of the

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conventional criteria employed in academic program reviews. The macro-level issues primarily concern the systematic ways applied learning can be prioritized or penalized in the program review process. The micro-level discussion shifts attention to an alternative assessment methodology for applied learning, specifically an internally developed instrument for measuring quality that focuses on features indigenous to experiential pedagogies. The micro-level component focuses on the tools that can generate evidence for how well (or poorly) applied learning is performing, furnishing the basis for assessments of quality that can drive concomitant resource allocation. Finally, the macro and micro levels are synthesized in reflections about the compatibility between applied learning and academic program review.

MACRO-LEVEL: ALIGNING APPLIED LEARNING WITH THE ACADEMIC PROGRAM REVIEW PROCESS

Academic program review is the functional equivalent of a performance appraisal of educational delivery. This performance appraisal generates recommendations for action, and the systematic application of program review is designed to shape policy regarding expansion, consolidation, alteration, or attenuation of educational services. What position might applied learning occupy within the evaluative framework of a comprehensive academic program review? If left unexamined, academic program review could introduce systematic under-acknowledgment of applied learning pedagogies. This marginalization, while unintentional, might leave unnoticed many of the connections between applied learning and fundamental life skills (Schwartzman, 2010).

CHALLENGES FOR APPLIED LEARNING

Applied learning could suffer under academic program review if such a review defines its unit of analysis (a "program") too narrowly and inflexibly. Applied learning as a pedagogy is transdisciplinary by nature. Of course, particular academic disciplines at a given campus may employ applied learning more than other fields. Administrative units such as an International Programs Center, Service-Learning Office, Undergraduate Research Office, or similarly designated entities may serve as focal points of applied learning practices. An institution-wide, systematic emphasis on applied learning, however, requires more than "a thousand points of light" that illuminate scattered pockets of experiential education. If the unit of analysis employed in academic program review is an academic department, major, or similar range of program delivery, the full measure and impact of applied learning could escape notice. To occupy a central place in academic program review, applied learning needs to be articulated as something deliberately embraced and systematically implemented throughout the institution. In this role, applied learning qualifies as integral to delivering desired educational outcomes rather than merely a co-curricular add-on incidental to education. Indeed, if approached primarily as a co-curricular "enhancement," applied learning appears as an easily severed appendage to more restrictive, classroom-bound pedagogies that fail to engage a broad range of students' intellectual capabilities (Slavkin, 2004).

How can academic program review capture the widest range of applied learning practices? If program review remains focused within the administrative or disciplinary silos of individual fields, departments, or offices, then it becomes difficult to aggregate applied learning per se because these pedagogical techniques do not always align neatly with the boundaries of majors, faculty lines, or even the definitions of traditional scholarship and creative activity. To remedy this potential for applied learning to fall through the cracks of program review, an institution needs to embrace applied learning as a central priority embodied in the value-saturated mission, vision, or strategic plan that forms the philosophical basis for program review itself. Any academic program review can aggregate and evaluate applied learning practices from the top by connecting the values that guide program review to the criteria for determining the quality of academic programs.

Explicitly connecting an institution's core values or objectives with applied learning could proceed by aligning these aspirations with applied learning practices that enable their achievement. Table 1 offers a hypothetical example of how a college or university might identify applied learning as a principal mode of achieving desired institutional goals.

It may be difficult or impossible to generate data that isolates experiential learning as the sole independent variable responsible for academic success. This challenge, however, does not automatically spell doom for applied learning. Rather, evaluators of academic programs should ask how applied learning contributes to the factors involved in achieving academic success as defined by the institution. Focus would shift away from capturing the elusive essence of quality and instead concentrate "on processes believed to produce quality" (Wergin, 2002, p. 248). Considered in more social scientific terms, perhaps applied learning needs to be treated more as a mediating factor that contributes to performance instead of as an independent cause of specific educational outcomes. Approached from this angle, program review could concentrate on how the institution's achievement of core values and goals is related to specific kinds of experiential learning. For example, how would the creation of responsible global citizens be affected by drastic cuts in international programs and service-learning? What other kinds of pedagogies could provide suitable replacements for immersion in a different cultural environment?

Table 1. Hypothetical Alignment of Core Institutional Goals and Values with Applied Learning Practices

Goal or Value	Corresponding Applied Learning Practices
Intensive research activity (culture of research at all levels)	Undergraduate research
Global citizenship, internationalization	Study abroad
Career preparation, job readiness	Internships, practica
Campus-community ties, community outreach	Service-learning

ORIENTING PROGRAM REVIEW TOWARD APPLIED LEARNING (AND VICE VERSA)

A comprehensive strategy to embed applied learning in the program review process requires connecting applied learning to performance measures adapted to experiential education. Reconciling applied learning practices with the performance criteria employed in a program review requires a delicate touch. On one hand, an evaluator should not simply re-engineer the criteria to manipulate them in favor of preferred pedagogies. This kind of "working the system" contaminates the process by concealing sub-par performance. On the other hand, the appraisal criteria should have enough breadth and flexibility to encompass the special character of experiential education.

For example, a simplistic calculation of cost per student might quickly identify study abroad as profligate, thereby generating recommendations to curtail or eliminate international components of academic majors. A more nuanced set of criteria, however, would enable per capita costs to be correlated with international student enrollment trends, donations with international program earmarks, and other offsets to costs that a unidimensional per capita measure would miss.

QUALITY CRITERIA

Academic quality often proves elusive, especially if the nature of quality is defined in relation to standards that serve only a limited constituency or rest on fuzzy rationales, such as the momentary impressions of students recorded on course evaluations. Some measures of quality seem directly opposed to philosophical underpinnings of applied learning. For example, correlating student success with earned income fails to acknowledge the deliberate choice of students who enter areas of public service at least partially because they object to the acquisitive values embodied by the concentration of wealth. More systemically, judging achievement mainly by measuring individual accomplishment veers away from the lesson many students glean from service-learning:

individual prosperity takes a back seat to the public good (Schwartzman & Phelps, 2002). For these students, success consists more of what good they can do than of what goods they can acquire.

Aside from challenging the premises of quality criteria and revising evaluative standards accordingly, those concerned with applied learning can explore additional dimensions of standard quality measures. One area ripe for revision and expansion is the scope of what qualifies as scholarly or creative accomplishments that determine an academic program's status. Practitioners of applied learning could stress the importance of service components, such as increasing the capacity of community agencies to serve clients (an easily quantifiable contribution of service-learning). Another realm that deserves attention is undergraduate research, which could contribute to performance both as research and as teaching due to the extensive mentorship it requires. Finally, various forms of applied learning could qualify as the means for a program to achieve its aspirations. For example, the route to achieving and maintaining a high national ranking in a field might require embracing experiential learning. Such a condition clearly holds in professional schools that educate practitioners in fields such as nursing, physical therapy, and other clinical practices.

FUNCTION AND DEMAND CRITERIA

The function and demand dimension deals with enrollment and placement trends. This area could recognize important contributions of applied learning, but only if criteria are approached creatively. Typically, function and demand refer to student enrollment. For example, an academic program might earn high marks for inclusiveness if it serves a high proportion of students from marginalized racial, ethnic, or socioeconomic populations. The challenge associated with this classification of criteria is that it may be subject to little control or influence by the academic program itself. If an institution as a whole has a highly homogeneous student population, then the program is constrained by those demographics.

A broader measure of inclusiveness and diversity could include not simply the students themselves, but the diversity of the populations with whom they interact via applied learning. Although study abroad will not change the demographic identity of the student traveler, it definitely adds to the diversity of the populations the institution reaches. One indicator of diversity, therefore, could be the number and range of nations serving as destinations for study abroad—a measure a program certainly can influence even if its own students remain demographically uniform. Similarly, service-learning projects could document the demographics of the constituencies served in community partnerships, thereby demonstrating cultural breadth not limited by the student body.

It is tempting to approach demand only from conventional standpoints: primarily student enrollment in courses and proportions of students in field-related employment after graduation. Other measures of demand specific to applied learning might demonstrate the need for accentuating such pedagogy. Demand also can apply to third-party clientele. Demand for service-learning is perhaps more accurately measured in the numbers of incoming requests by community partners for assistance. If a Service-Learning Office or its campus equivalent tracks and records large numbers of community partners whose requests for student volunteers go unfilled, then this point demonstrates high demand that could warrant expansion of service-learning projects. Even if demand measured by student enrollment appears low, external demand could fuel arguments for expanding instead of contracting service-learning experiences. An equivalent argument could justify expansion of study abroad. Although few students may choose international educational experiences, high external demand (large numbers of requests for students) from foreign universities furnishes some evidence for reconsidering curtailment of such programs.

EFFICIENCY CRITERIA

Efficiency might prove the most troublesome for many types of applied learning. Put simply, much applied learning is resource-intensive, and economies of scale often work against pedagogies that require intense preparation and personal mentoring (Schwartzman, 2001). Undergraduate research seems especially vulnerable to efficiency objections, as it frequently involves individual supervision. Even individualized undergraduate research, however, opens the possibility for a reevaluation of efficiency. If undergraduate researchers receive some sort of wages for their work (such as undergraduate research assistantships), one could argue that such personnel usage is highly efficient. Undergraduates would require far lower pay scales than graduate students or faculty, so their research—although apparently inefficient on an absolute scale of students per faculty supervisor—actually represents a far lower labor cost than equivalent work by more advanced staff would incur. This relative efficiency of undergraduate researchers configures them as a cost-saving device rather than as an expensive instructional extravagance.

Other innovative possibilities arise for leveraging applied learning as a way to reduce costs. Alternative paths to teacher certification, a pedagogical issue addressed in the article by McCarty and Dietz in this issue of *JALHE*, offers promising potential for reducing the number of traditional course sections and reducing the time span between teacher recruitment and deployment in a classroom (Coplin, 2005). Applied learning might fare better than expected according to efficiency criteria if experiential pedagogies are examined more as multidimensional investments than as sheer costs. More concretely, evaluators should explore not only the resources expended to engage in applied learning, but also weigh the costs saved or funds generated by selecting these approaches compared to alternatives.

MICRO-LEVEL: AN ASSESSMENT TOOL TO EVALUATE APPLIED LEARNING

This section discusses the development and testing of an assessment instrument specifically devised to measure educational quality along dimensions salient to experiential education. This assessment tool can be employed across academic disciplines to evaluate the quality of applied learning throughout a campus. The rationale for developing such an instrument arises from the need for generating performance data that emerge from characteristics native to applied learning. If an assessment tool can accurately and reliably identify the quality of applied learning on its own terms, then it allows for comparative evaluations of pedagogical practices throughout the institution. Furthermore, using performance indicators indigenous to applied learning avoids superimposing inappropriate criteria that could fail to capture the most vital pedagogical features of experiential education.

COMMON QUALITY INDICATORS

If one's goal is to build a campus-wide applied learning assessment tool, identifying quality indicators that work across a variety of experiential settings is required. Scholarship focused on developing service-learning as a core pedagogy in higher education has already made great strides in this matter. Eyler and Giles (1999) identify Reflection, Placement Quality, Application, and Diversity as important elements of high-quality service-learning experiences. These elements also apply to determining the quality of internships and practica (Hook & Fern, 1983; Landerholm, Gehrie, & Hao, 2004; Sherman, 1999), undergraduate research (Kinkead, 2003; Mabrouk, 2003), and study away experiences (Cash, 1993; Gillespie, Braskamp, & Braskamp, 1999; Hill & Woodland, 2002).

Reflection in service-learning is the uniting of student experience to academic content through discussion and writing (Eyler, Giles, & Schmiede, 1996). Reflection is relevant for other applied learning forms that have both academic content and student experience as structures. For example, imagine a study away experience in which the intention is that students travel in Rome to study ancient civilization. One version of

this applied experience might involve students and faculty seeing sights together in mornings, with afternoons devoted to contextualizing their experiences through reflection. Simply sightseeing without the appropriate reflection processes (journaling, group discussions, term papers) would be a far weaker learning experience.

Placement Quality in service-learning refers to variety of work, significance of work, and independence in the setting (Eyler & Giles, 1999). Variation along these dimensions exists in other forms of applied learning and could be used to define quality. Consider an internship experience in which a student works on a variety of projects, some of which involve ownership and independence, ultimately yielding products that are presented to administration for consideration. Contrast that internship to the experience a student has when he or she spends a lot of time at a workplace, but has little ownership in projects and no outcome to show for the experience. The former internship is of high placement quality; the latter is weak on this dimension.

Application in service-learning is the degree to which the academic, or disciplinary, content has to be used during the experience (Eyler & Giles, 1999). Yet its usefulness in assessing the quality of a student experience is not limited to service-learning experiences. Any quality applied learning experience relies on application of material in context. For example, an undergraduate research student who participates in the data collection process has to employ content learned in a methods class. This experience has a stronger application element than a research student who merely enters data (rather than analyzing it) or washes test tubes in a laboratory.

Finally, Diversity in service-learning is exposure to a variety of ideas and/or people (Eyler & Giles, 1999). Like the other elements of quality, diversity is arguably significant in a variety of forms of applied learning. Clearly, exposure to cultural diversity through international travel is important to high quality study away experiences. When diversity is broadly construed, though, rather than race- or gender-driven, it is also useful for assessing the quality of internships, practica, and research experiences. For example, an interdisciplinary research team exposes students to diverse perspectives and possibly diverse methods.

To develop an instrument useful as a common assessment tool for a variety of forms of applied learning, the present research builds on the flexibility of these quality indicators identified by Eyler and Giles (1999). Intuitively, and in extant literature, the constructs used to evaluate quality in service-learning apply to other forms of applied learning. To examine this intuition and indication in the literature, this initial study reports the development of a scale around these constructs. The study begins with item development based on a qualitative interview. The interview informs the development of these constructs into a Likert-type instrument that is quick and efficient to use as part of an institutional assessment program. The research on the instrument itself relies on quantitative methodology to speak to the reliability and validity of the Applied Learning Assessment Tool (ALAT).

VALIDATION STUDY PHASE I

QUALITATIVE INTERVIEW FOR ITEM DEVELOPMENT

Although the constructs discussed above seem applicable to assessment of forms of applied learning beyond service-learning, it is important to put this sort of intuitive analysis to empirical test. Having identified them as potentially useful, the item development phase of this work involved conducting interviews with faculty supervisors of applied learning experiences and holding follow-up focus groups to review drafts of the items resulting from the interviews. This process is summarized below.

Faculty interviews involved sets of questions constructed around Placement Quality, Application, Reflection, and Diversity. Faculty from a mid-size public institution in the Midwest who were identified by their department chairpersons as involved in the applied learning pedagogies were invited to complete the interview process. Of 64 faculty contacted, 53 participated (83% response rate). Interview questions focused on eliciting exemplars of how faculty interpreted each of these constructs in their particular disciplines' applied learning experiences. Interviews were conducted face-to-face and faculty responses were recorded by the interviewer. Each interview took approximately 60 minutes. The interview protocol is available upon request from the fourth author.

Once the interviews were completed, the two interviewers reviewed responses to identify content that might be useful in developing item content. For a response to be considered useful as potential item content, 25% or more of the faculty respondents had to have mentioned it. For example, 54% of faculty agreed that variety, in some form, was essential to their own evaluations of the Placement Quality their students experienced. Thus, at least one or more items assessing "variety of work in the Applied Learning setting" was developed.

Once a set of items was developed, faculty who had participated in the interview process were invited to one or more focus groups. Four focus groups were held, one for each of the four forms of applied learning (service-learning, study away, undergraduate research, and internships/practica). At the focus groups, faculty attendees provided feedback on item content, and the items were further refined. The resultant items comprised the first version of the Applied Learning Assessment Tool. This study documents the evidence supporting the psychometric properties of the tool. The goal was to develop an assessment tool that could be used for all four forms of applied learning with internal consistency reliability in excess of .80 and a factor structure correspondent to the four common constructs (Placement Quality, Application, Reflection, and Diversity), which would support the construct validity of the scale.

VALIDATION STUDY PHASE I METHOD

Participants. Academic chairs were contacted to determine which courses in their department enrolled students in a curricular applied learning experience during the Fall semester. Students enrolled in identified courses were surveyed. Of the 1,065 questionnaires distributed, 622 were returned (58% response rate).

Instrument. The initial version of the Applied Learning Assessment Tool (ALAT 1.0) contained 17 items, constructed on 5-point Likert scales ranging from 5 (*strongly agree*) to 1 (*strongly disagree*). These items, and their intended subscales, are shown in Table 2. Four parallel versions of the assessment measured the four types of applied learning experiences: undergraduate research/project, internship/practicum, service-learning, and study away. The four parallel versions allowed for slight wording variations to make items clearer to the student. For example, item 4 reads: "This internship/practicum experience increased my exposure to different types of people." The only change from each version was the experience name, such that each version read, "this independent research/project," "this study away," or "this service-learning experience."

VALIDATION STUDY PHASE I RESULTS

Reliability. The 17 items across the four types of applied learning experiences showed adequate internal consistency reliability as measured by Cronbach's alpha ($\alpha = .88$). Because this survey was developed to support institutional accreditation processes, it was intended to be used each semester. Because of the anticipated frequency of use, one goal was to create a more concise version of the tool.

To reduce length, item-to-total correlations were examined to determine which items were good candidates for omission from the scale, while maintaining an internal consistency reliability of .80 or greater for the global scale. Item-to-total correlations show how individual items correlate to the global scale. A low correlation indicates the item may measure a different construct than other items. This analysis also shows how the global alpha will change when a given item is removed. The aim was to remove items with lower item-to-total correlations, yet retain

Table 2. ALAT 1.0 Items

Item	Subscale
1. Could have had same experience without coursework	Application
2. Involved in multiple steps	Placement Quality
3. Did not have the opportunity to function independently	Placement Quality
4. Increased my exposure to different types of people	Diversity
5. No writing was required of me	Reflection
6. Supervising professor provided no feedback	Reflection
7. My contribution was significant to the outcome	Placement Quality
8. I problem solved	Reflection
9. Participated in action planning	Reflection
10. Did not see a variety of viewpoints expressed	Diversity
11. Not exposed to a diverse group of people	Diversity
12. Supervising professor and I discussed the significance	Reflection
13. Relates to other classes	Application
14. Syllabus/assignments did not connect	Application
15. Relates to my coursework	Application
16. Increased my exposure to viewpoints different than my own	Diversity
17. Spent the majority of the time doing low-level, repetitive tasks	Placement Quality

a relatively balanced subscale structure such that each subscale had at least three items. Based on item-to-total correlation analysis, the following items were removed: (1) Item 7, from Placement Quality subscale, (2) Item 13, from Application subscale, (3) Items 5 and 6 from Reflection subscale, and (4) Item 11, from Diversity subscale. A total of 12 items remained, achieving an alpha of .864. These remaining 12 items will be referred to as ALAT 2.0 hereafter.

Construct Validity. As discussed previously, ALAT 2.0 comprised four distinct subscales: Placement Quality, Application, Reflection, and Diversity. To determine if this hypothesized factor structure could be empirically verified, a confirmatory factor analysis was conducted. Because the four subscales were anticipated to correlate with each other, an oblique rotation (Promax) using SPSS was selected.

The result of the 4-factor structure accounted for 64% of the variability in the data. The four factors, after rotation, were roughly consistent with the hypothesized factor structure. Factor loadings are shown in Table 3. Two criteria were used in evaluating the factor structure: (1) items should load on the same factor as items in the same subscale and (2) loading on this factor should be at least .40 (Gorsuch's [1983] minimum). Each subscale's performance in the analysis is reviewed in Table 3.

Application subscale items performed the best, with all items loading at least .40 or higher on the same factor. Reflection items fared reasonably well, with all items loading at least .40 on the same factor. One item also loaded on the Application factor. Diversity subscale items all loaded at least .40 on the same factor as well with one of the three items also loading on the Application factor. The Placement Quality subscale was weakest. Of the three items hypothesized to be Placement Quality items, only one loaded on the Placement Quality factor. The remaining two items loaded on the Application factor.

To better understand the poor performance of the Placement Quality subscale, item content was examined. The two Placement Quality items

Table 3. Factor Pattern for Validation Study Phase I, Fall Data Set

	Factor			
Subscale	**Placement Quality**	**Application**	**Reflection**	**Diversity**
Placement Quality				
2. Involved in multiple steps.	**.99**			
3.Did not have opportunity to function independently. (R)	**.34**	*.40*		
17. Spent majority of time doing low-level tasks. (R)	**.37**	*.47*		
Application				
1. Could have had same experience without coursework at this university. (R)		**.59**		
14. Assignment did not connect. (R)		**.75**		
15. My research/project relates to major coursework.		**.68**		
Reflection				
8. I problem solved.			**.81**	
9. I participated in action planning.			**.84**	
12. My supervising professor and I discussed significance of research/project.		*.54*	**.47**	
Diversity				
4. This increased my exposure to different types of people.				**.49**
10. I did not see a variety of viewpoints. (R)		*.53*		**.42**
16. This increased my exposure to viewpoints different than my own.				**1.00**

NOTE: (R) indicates a reverse-score item. The items in this table appear in an abbreviated form. Boldfaced numbers indicate factor loadings on which the item was predicted to load; italicized numbers indicate a factor loading above .40 that was unanticipated for that item.

that loaded on the Application factor were intended to measure independence (Item 3) and variety (Item 17) within the applied learning placement. This may indicate that Placement Quality as a subscale is more conceptually complex than the other three subscales. If the Placement Quality subscale measured more than one construct, it could account for the pattern of item loadings, indicating multiple subscales are needed to address Placement Quality. Alternately, the weak pattern loading could simply be a result of poorly worded items. A second wave of data collection provided an opportunity to revise these items.

VALIDATION STUDY PHASE I DISCUSSION

Although the instrument's reliability went down slightly from ALAT 1.0 to 2.0, the scale was shortened while retaining an acceptable global alpha. Removing items with low item-to-total correlations allowed creation of a more succinct and streamlined assessment that presumably assesses all four types of applied learning experiences while keeping intact the reliability of the measurement.

The factor structure showed Placement Quality items did not load onto a distinct factor, instead partially loading on the Application factor. This may have indicated the Placement Quality items were not statistically measuring the same construct, and suggests that multiple subscales might be required to adequately assess Placement Quality. However, before adding additional subscales, which would increase the length of the scale, the alternate possibility that the existing Placement Quality items were simply not well written was tested.

Loadings on the factor structure indicated that items in the Application subscale statistically measured the same construct, as they all loaded on the hypothesized factor. Items in the Reflection and Diversity subscales loaded into almost distinct factors, with only one item in each subscale loading onto the Application factor. The hypothesized Application factor clearly contained more than the expected three application items, indicating it may be difficult to disentangle from the other subscale items. Given the overall construct is applied learning, this is not remarkable.

Finally, the present study provided no evidence of convergent validity. If evidence of convergent validity were demonstrated in the following study, the ALAT would be a stronger assessment tool for institutions to use when evaluating student applied learning experiences.

VALIDATION STUDY PHASE II

VALIDATION STUDY PHASE II METHOD

Participants. The same method of distribution used in the Fall data set was used for Spring. A total of 1,190 questionnaires were distributed, with 709 returned (59.6% response rate).

Instrument. The ALAT 2.0's Placement Quality items were edited for clarity in an attempt to improve subscale performance. The resulting scale will be referred to as ALAT 3.0 hereafter, and can be seen in Table 4. The ALAT 3.0 was used in the present study. As before, all items employed a 5-point Likert scale. The 12 items comprised four hypothesized scales: Placement Quality, Application, Reflection, and Diversity.

Study 1 offered no evidence of convergent validity. Four items additional to the 12-item scale were included in ALAT 3.0, aimed to address this weakness. The four validity items were: (1) I am satisfied with my experience, (2) I would recommend this experience to a friend, (3) I would repeat this experience, given the opportunity, and (4) This experience seemed of little value. The first three items were predicted to correlate significantly and positively with overall quality scores as

Table 4. ALAT 3.0 Items

Item	Subscale
1. Could have had same experience without my coursework	Application
2. Involved in multiple tasks	Placement Quality
3. Had to function independently	Placement Quality
4. Increased my exposure to different types of people	Diversity
5. I problem solved	Reflection
6. Participated in action planning	Reflection
7. Did not see a variety of viewpoints expressed	Diversity
8. My professor led discussions about the significance	Reflection
9. Syllabus/assignments did not connect this experience to my other classes	Application
10. Relates to my major coursework	Application
11. Increased my exposure to viewpoints different than my own	Diversity
12. Spent the majority of my time performing the same type of task repeatedly	Placement Quality

measured by ALAT 3.0, while the fourth item was expected to correlate significantly and negatively with the same.

VALIDATION STUDY PHASE II RESULTS

Reliability. ALAT 3.0 showed moderate internal consistency reliability, measured by Cronbach's Alpha ($\alpha = .78$). This was a much lower reliability than Study 1; however, the ALAT 3.0 contained fewer items, making higher reliability more difficult to demonstrate. Because the internal consistency reliability was lower than expected, the item-to-total correlations were re-examined to determine if any particular items were driving the alpha down. In particular, the edited Placement Quality items were scrutinized. As indicated above, Placement Quality items were anticipated to potentially perform poorly simply because they measure multiple constructs. These edited items may have contributed to the initially weaker alpha observed.

Items showing markedly lower item-to-total correlations were removed. Items 3 and 12–both from the Placement Quality subscale–were removed because, as suspected, the alpha for the global scale increased with their removal. These were the revised versions of the poorly performing Placement Quality items from Study 1. The remaining 10 items (ALAT 4.0) were then re-entered into internal consistency analysis, improving alpha to .81.

Construct Validity. To test the subscale structure, the remaining items were submitted to a confirmatory factor analysis. Because there was only one Placement Quality item (item 2) remaining in ALAT 4.0, only three complete subscales remained: Application, Reflection, and Diversity. Therefore, only three factors were expected. The remaining Placement Quality item essentially measured variety of activity, which might also function as part of the diversity of the experience. Consequently, this item was predicted to load on the diversity factor, as that assessed variety within the student experience.

The same oblique rotation method (Promax) was used, with a 3-factor solution specified. The factor analysis accounted for 58% of the variability in the data. Factor loadings are shown in Table 5. As before, the same two criteria from Study 1 were used to evaluate factor structure.

All three of the Application subscale items loaded on the hypothesized factor over .40 with one item also loading on the Diversity factor. The Reflection subscale had two items load onto the predicted Reflection factor, with one item loading above the .40 threshold on the Diversity factor rather than the Reflection factor. The Diversity subscale had four hypothesized items, including the former Placement Quality item (Item 2). As expected, the former Placement Quality item loaded on the

Table 5. Factor Pattern for Validation Study Phase II, Spring Data Set

Subscale	Factor		
	Application	**Reflection**	**Diversity**
Application			
1. Could have had same experience without coursework at this university. (R)	**.65**		
9. Syllabus/assignment did not connect. (R)	**.79**		
10. Relates to major coursework.	**.68**		*.80*
Reflection			
5. I solved problems.		**.77**	
6. I participated in action planning.		**.76**	
8. My professor led discussions about significance.		**.17**	*.64*
Diversity			
2. Involved in multiple tasks.			**.71**
4. This increased my exposure to different types of people.			**.71**
7. I did not see a variety of viewpoints. (R)		*.76*	**.22**
11. This increased my exposure to viewpoints different than my own.			**.79**
NOTE: (R) indicates a reverse-score item. The items in this table appear in an abbreviated form. Boldfaced numbers indicate factor loadings on which the item was predicted to load; italicized numbers indicate a factor loading above .40 that was unanticipated for that item.			

Table 6. Correlations between 10-item ALAT and Convergent Validity Items for Validation Study Phase II, Spring Data Set

	Validity Item			
	1. Satisfied	2. Recommend	3. Repeat	4. Little Value
10-item scale (ALAT 4.0)	**.66**	**.28**	**.34**	**-.64**
Validity Item 1 (Satisfied)		**.88**	**.62**	**-.72**
Validity Item 2 (Recommend)			**.20**	**-.32**
Validity Item 3 (Repeat)				**-.36**

Diversity factor. Two of the remaining three Diversity items also loaded on that factor, with the final item loading well below the .40 threshold. Rather, it loaded on the Application factor, as it did in Study 1.

Convergent Validity. Beyond refining the subscale structure, a second goal of Study 2 was to establish convergent validity of the ALAT. The four validity items were entered into a correlation with the mean score for the 10-item scale. Correlation coefficients are shown in Table 6. All four items, as expected, correlated significantly at the .01 significance level and in the predicted directions.

VALIDATION STUDY PHASE II DISCUSSION

Moving from ALAT 3.0 to 4.0, adequate internal consistency reliability was achieved. When the two poorly performing Placement

Quality items were removed, not only did the scale's alpha improve, but the result was an extremely brief assessment tool useful across applied learning types, a goal from Phase I. The removed items performed poorly in both Phases I and II. When eliminated, internal consistency improved, indicating these items were measuring constructs somewhat different than "applied learning quality."

With only one Placement Quality item remaining, a complete Placement Quality subscale no longer existed. Indeed this possibility was anticipated, as Placement Quality is a complex construct to measure in a single subscale. The remaining Placement Quality item was reassigned to the Diversity subscale, and a 3-factor structure was expected. As anticipated, the Placement Quality item loaded onto the diversity subscale. This was reasonable as the former Placement Quality item measured variety within the placement site, and was similar to the diversity construct.

Application fared well in Phase II of the Validation Study, with all items loading above threshold on the hypothesized factor. One item dually loaded on the Diversity factor. Reflection performed adequately, with two items loading as predicted, and one item loading unexpectedly on the Diversity factor. The Diversity subscale had three items load on the Diversity factor, and one item loaded on the Application factor. This was the same item that loaded onto the Application factor in Phase I.

Both Application and Reflection showed an item being loaded on the Diversity factor, indicating Diversity, like Placement Quality, might encompass more than originally considered. Further, Diversity had one item that loaded on the Application factor. Although adequate distinction was achieved between these two factors, future research should focus on rewording such items to more narrowly define each subscale construct, with less overlap between them.

Another goal for Phase II of the Validation Study was to provide evidence of convergent validity for the ALAT. This was met with strong results. As expected, the four items used to establish this validity significantly correlated with the global scale score in predicted directions. Future research might strengthen the scale further by seeking evidence of divergent validity, and even more important, criterion-related validity.

GENERAL DISCUSSION OF THE INSTRUMENT

The primary objective was to create a succinct assessment tool that could be used for institutional purposes to measure applied learning experiences. Because each applied learning experience shares common elements of quality (Application, Reflection, and Diversity), using a single assessment tool improves comparability. The current version's 10-item length makes it amenable for use each semester.

The reliability and validity of the ALAT 4.0 are other strengths that should appeal to those interested in using the instrument for institutional assessment purposes, or for individual faculty/staff development feedback. The Fall data set revealed strong internal consistency, but included items that failed to measure the hypothesized subscales according to the factor analysis. Moving to Spring semester, the number of items was pared, while maintaining strong internal consistency reliability. The ALAT 4.0 had only 10 items, meeting the goal of a concise tool, while preserving a strong alpha. Factor analyses from both Phases I and II indicated reasonable subscale validation. Items in each subscale loaded onto its hypothesized factor a majority of the time, indicating that the hypothesized subscales are useful measures for a variety of forms of applied learning. Finally, convergent validity evidence was very strong from Phase II, with all items correlating in predicted directions and magnitudes with the overall scale score.

LIMITATIONS AND IMPLICATIONS

Although the subscales showed evidence of construct validation, factor analyses also revealed some items loading into unpredictable patterns. For instance, in Phase II, Reflection and Diversity each had one item load into a different factor than anticipated. Given that subscales would reasonably be expected to correlate, it is likely there is some overlap in items predicted to load onto separate factors. Placement Quality loaded in unexpected ways with even more frequency than items predicted to load onto the other three subscales. This consistent "double-loading" indicated Placement Quality, as it was defined in these studies, was likely too broad to be assessed in a single subscale. Placement Quality comprises several ideas: variety, independence, and diversity within the placement. This breadth of content could explain why Placement Quality items kept loading on Application and Diversity factors. Future research should focus on establishing these additional subscales.

Although the convergent validity evidence was strong in Phase II, no evidence of divergent or criterion-related validity was provided in these studies. The focus on content (item development phases), construct, and convergent validity, while useful, is not a complete picture of the assessment tool. Future studies can fill this gap by identifying appropriate measures for establishing divergence and criterion-related validity. For example, within a single course that contains applied learning experiences, a professor might be able to rank order his or her perceived quality of students' experiences. These rankings could then be correlated with quality as assessed by the ALAT 4.0 to establish a concurrent criterion-related validity coefficient.

The ALAT 4.0 is capable of assessing disparate programs using a single tool. This makes evaluations and comparisons of programs that fall within the applied learning rubric more feasible. Beyond evaluation, ALAT 4.0 can highlight common strengths and weaknesses across programs, allowing administrators to plan professional development activities to maximize cross-program impact.

Kolb (1981) has articulated a well-known theory of experiential learning, which describes how students process experience and learn from it. Kolb describes students' movement through a learning cycle of concrete experience, reflective observation, abstract thinking, and active experimentation. This theory is useful for understanding a student's development, whether the learning activity is curricular or co-curricular. Kolb argues that effective learners need competencies in all four components of the learning cycle. Students must involve themselves fully and without bias in learning experiences, observe and reflect on those experiences from diverse perspectives, formulate concepts through reflection that integrate observations into personal theories, and apply those theories in decision-making and problem-solving. It is this complex integration that creates a quality learning experience.

Although the ALAT 4.0 was developed to measure curricular applied learning, its three subscales of Diversity, Reflection, and Application correspond nicely to the last three stages in Kolb's (1981) learning cycle. Perhaps part of the Placement Quality subscale's failure, in addition to explanations offered above, is that it failed to correspond well to Kolb's notion of concrete experience. The correspondence between Kolb and the remaining three subscales suggests that, though currently only tested in curricular applied learning settings, the ALAT 4.0 should be useful to student development professionals in assessing co-curricular applied learning experiences. Certainly a strong co-curriculum builds in opportunities to expose students to diverse populations and perspectives, to reflect upon the experience and form an understanding of the system in which the experience is embedded, and then apply that new understanding to future activities. The ALAT 4.0 subscales provide both a guide for student development professionals creating applied learning experiences and an assessment tool to document the quality of the activity to institutional and community stakeholders.

SYNTHESIS: WHAT APPLIED LEARNING AND ACADEMIC PROGRAM REVIEW MEAN FOR EACH OTHER

Development of the ALAT or equivalent home-grown instruments can facilitate not only comparative performance appraisals of applied learning, but can establish local performance benchmarks when external yardsticks are unavailable. Gathered over time, consistent and widespread data garnered with such tools can illuminate longitudinal trends that can provide valuable indicators of relative educational quality over time.

Incorporating rigorous program review into an institution's culture furnishes much clearer evidence for claims about the nature and quality of academic programs. More important, program review can generate ongoing, detailed feedback about how each program is progressing toward its aspirational goals. The more proactive, ongoing use of program review is diagnostic: noticing patterns of performance that can justify the choices the denizens of academia make.

A multidimensional program review can reveal aspects of academic identity in ways that go beyond simply counting bodies in seats or weighing reams of publications. Yes, those things do matter, but they are parts of larger wholes that constitute a holistic education with identifiable indicators of quality. More important, when legislators, parents, prospective students, faculty at other campuses, or other interested parties ask about academic programs, an institution can cite specific, documented rationales for its decisions about resource allocation. Program review, used proactively, can provide program preview: clearer insight regarding what a program can and should be. An especially important and uplifting aspect of program review deals with the implications of identifying the highest performing academic programs. Program review involves collecting data, history, and cogent rationales that show where an institution excels and why. Academic leaders can make a much better case for promoting the institution, soliciting funds, and recruiting because their claims of excellence have much more tangible evidence. This essay has attempted to demonstrate the roles that applied learning could play in making those claims about academic performance—and academic possibilities.

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The Integrative Business Experience: A Practical Approach for Learning by Doing

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This paper describes an interdisciplinary undergraduate curriculum innovation that links classroom learning to hands-on business and community service work. The program, called the Integrative Business Experience (IBE), requires students to enroll concurrently in three required core business courses and a practicum course in which they develop and operate a start-up business (based on an actual bank loan of up to $5,000) and use company profits to carry out a hands-on community service project. The IBE program is by nature a set of applied learning courses that clearly fulfill Kolb's four steps in the Cycle of Learning and produces a wide variety of positive outcomes. This paper will explain the need for applied learning in business and how the IBE program is structured. Then, after an overview of Kolb's Cycle of Learning (1984), the paper will apply IBE to Kolb's four stages: 1) Concrete Experience, 2) Reflective Observation, 3) Abstract Conceptualization, and 4) Active Experimentation.

Over two decades ago, in a comprehensive national study, Porter and McKibbin (1988) concluded that undergraduate business school programs were doing a good job of developing students' technical skills, but were not adequately preparing them for their future jobs. Unfortunately, based on more recent assessments (e.g. Bennis & O'Toole, 2005; Mitroff, 2004; Pfeffer & Fong, 2002, 2004), business graduates are still unprepared in four important areas. With few exceptions, they: (a) have a difficult time viewing business organizations from an interdisciplinary perspective, (b) are limited in their ability to work and communicate effectively with others, (c) are unable to solve

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unstructured problems and (d) have a narrow, outdated view of ethics and the role of management in human affairs.

In large measure, these deficiencies probably result from a combination of two factors. One is that most students have only worked in low level, part-time jobs that contribute little to their understanding of the workings of business organizations. Further, although typical student jobs involve working with others, they seldom provide any significant responsibility for organizing work activities, dealing with ethics and/or human-resource issues or solving unstructured problems. The other is that prevailing business education practice emphasizes theoretical knowledge in discipline-based courses while largely ignoring both practical applications that cut across business disciplines and the development of students' professional and ethical assessments (e.g., Bennis & O'Toole, 2005; Giacalone & Thompson, 2006; Mitroff, 2004; Pfeffer & Fong, 2002, 2004). Further, traditional lecture/discussion courses seldom provide opportunities to develop social responsibility and student values or gain community involvement.

The purpose of this paper is to describe a program in which students learn to do hands-on business and community service work. The program, called the Integrative Business Experience (IBE—see Michaelsen & McCord, 2006), requires students to enroll concurrently in three required core business courses and a practicum course in which they develop and operate a start-up business (based on an actual bank loan of up to $5,000) and use company profits to carry out a hands-on community service project. By creating and running both a business and service venture, the students engage in activities and outcomes that touch on all four of Kolb's Stages of Learning. The program receives high accolades and interest because the learning outcomes are clearly strong and directly measurable using real business metrics and because student engagement is very strong. These outcomes are a direct result of applied learning in an innovative and integrated curriculum.

STRUCTURE OF IBE

In most undergraduate business programs, students have four types of required course work. During their freshman and sophomore years,

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they must complete the first two types: a university core curriculum (a broad-based set of general education requirements) and a pre-business core (i.e., courses in economics, statistics, computers, business communications, and mathematics). During their junior year, they must complete a set of core courses that focus on key business functions (e.g., finance, information systems, legal studies, management, marketing, etc.) During the remainder of their junior year and in their senior year, students complete the coursework in their major and minor fields of study and conclude by taking a required capstone course.

The curricular innovation reported in this paper involves a change in the way students complete their junior-level core business requirements. Traditionally, they enrolled in four or five (depending on the university) stand-alone, lecture-oriented courses. Starting in the spring of 2004 at the University of Central Missouri, they have the opportunity to choose a program, called the Integrative Business Experience (IBE—see Figure 1). This program, which was inspired by Management 101 at Bucknell University (see Miller, 1991), links students' work in three core courses to two intensive hands-on experiences (see Figure 2). Typically, these core courses are taught in a lecture/discussion format in which students listen, take notes, and demonstrate familiarity with course concepts by taking summative, and, in most cases, multiple-choice exams. By contrast, IBE students have the opportunity to: (a) practice using basic business concepts and analytical tools to solve a wide range of unstructured problems, (b) receive an integrated exposure to concepts from three core business disciplines, (c) develop interpersonal and group-interaction skills in a work-like setting, and (d) develop student values and social responsibility by responding to a real societal need. IBE students gain experience by creating and managing two significant enterprises–an actual start-up company (funded by a real-money bank loan of up to $5,000) and a hands-on community service project. They receive an integrated exposure to core business concepts as faculty deliver content instruction that is specifically sequenced to provide real-time conceptual support for managing students' business and service ventures. Students also have the opportunity to develop interpersonal and group problem-solving skills both in learning teams in the content courses (see Michaelsen, Knight, & Fink, 2004; Michaelsen, Parmalee, Levine & McMahon, 2007) and through their IBE company activities.

TEAM-BASED LEARNING

Team-Based Learning (TBL—see Michaelsen et al., 2004, Sweet & Michaelsen, 2011, Trank & Rynes, 2003) is rooted in what actually motivates adult learners. Rather than coercing students to "do what

Figure 1. Business Degree Program Structure

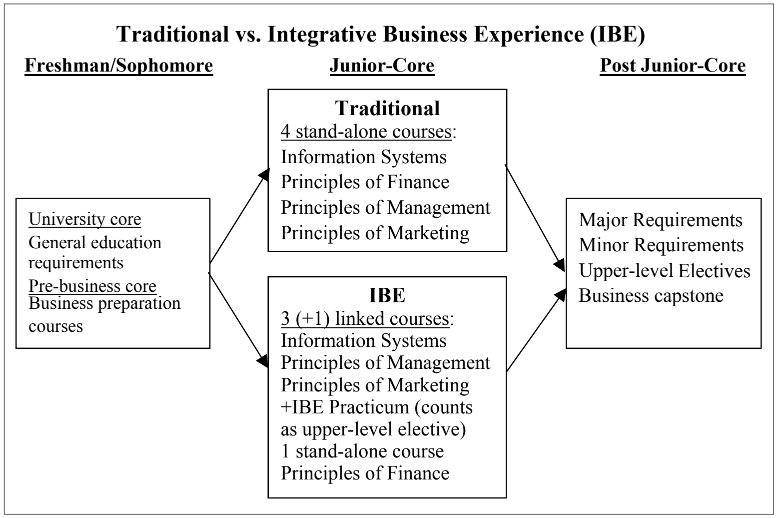


Figure 2. Key Elements of IBE

Integrative Business Experience (IBE) Key Program Elements

- Team-Based Learning (TBL) to ensure:
  1. Efficient content coverage–foundation from students' pre-class individual study.
  2. In-class time primarily focused on concept applications.
  3. Development of effective student teams.
  4. Development of interpersonal/group problem solving skills.
- Learning linked to experience. In one 16-week semester, students:
  1. Simultaneously concurrently enroll in four courses–three required core business courses and an Entrepreneurship/Community Service Practicum.
  2. Are responsible for mastering the content in the three required core business courses.
  3. Are assigned to a permanent 5-7-member learning team that is expected to complete projects and exams in all three core courses.
  4. Are an "employee" of 20-35 member company (4 or 5 of the core course teams) that develops a business plan for:
     - A start-up business venture.
     - A hands-on community service project.
  5. Obtain a *real* money bank loan (up to $5,000) to finance their start-up business.
  6. Generate enough income to pay back their loan *and* finance their service project.
  7. Prepare and present a company annual report
  8. Create a personal IBE program portfolio containing:
     - Self-reflections on how their experience contributed to their learning.
     - Artifacts that document their achievements and their learning outcomes.

good students do" (come to class, pay attention, take notes, etc.), TBL structures student work around specific, visible, concrete, public decisions. The quality of those decisions depends on how well students have processed course content. Particularly in the context of IBE, reading and studying are no longer empty behaviors or abstract exercises; they are a means to an immediate end—figuring out how to create and manage a start-up business and how to make a real difference through doing community service work. A permanent team structure gives students time to learn to make decisions together, an essential condition for requiring them to perform at higher cognitive levels. The key to an effective TBL course is that student tasks must be focused on using course concepts as a basis for making decisions and, in IBE, the decisions have consequences for the students, their customers, and for the recipients of their community service work. The main driver of the method is frequent, immediate feedback on everything students decide—whether as individuals or in teams. In IBE, the highest-impact feedback is often the reactions of their customers and clients.

A TBL course will have 5-7 instructional units. For each unit, the sequence over 2-6 class meetings is:

1. A substantial reading assignment (outside of class)
2. Readiness Assurance Process to assess basic student grasp of main ideas (in class)
3. Clarification of lingering confusion (in class)
4. Team applications using the material to delve more deeply into complex ideas (in class)
5. Assessment of learning (individual and/or team assignments) (in or outside of class)
6. Debrief/summary (in class)

The Readiness Assurance Process (RAP) (see Michaelsen et al., 2004; Sweet & Michaelsen, 2011) provides a foundation for both content understanding and team development. Early in each unit, students take an individual, multiple-choice, Readiness Assessment Test (RAT) to measure their understanding of the assigned content. Immediately afterward the team takes the exactly same test for a team score. Both components factor into students' grades. The RATs ensure that students get immediate feedback on their initial understanding, to correct any errors. This process has a double psychological function. First, the Individual RAT ensures that students do not use their teams to cover over individual failure to prepare. Second, the Team RAT requires the team to practice its decision-making from the very beginning of the course.

EXPERIENTIAL LEARNING THEORY: KOLB'S CYCLE OF LEARNING

Applied learning is a pedagogy that integrates the content matter(s) being studied with authentic, real, learning experiences, and in doing so, completes Kolb's (1984) Cycle of Learning. Part of applied learning is experiential education, which is a process through which a learner constructs knowledge, skill, and value from direct experience (Luckman, 1996, p.7). Based on the idea that direct involvement enhances students' learning, experiential education addresses student problems with learning and motivation (Rogers, 1969). Applied learning uses experiential education in a real setting, which is the backbone of the IBE curriculum.

Many empirical studies have found that experiential learning increases students' ability to transfer knowledge and skills from the classroom to the real world (Cantor, 1995; Cranton, 1989; Knowles, 1970). Knowles et al. (1984) also supports the motivational advantages of experiential learning. His work on self-directed learning theory suggest that adults have a preference for experiential and task-centered learning. Other studies of experiential learning found increased student satisfaction and motivation (Acosta, 1991; Baslow & Byrne, 1993; Cantor, 1995.)

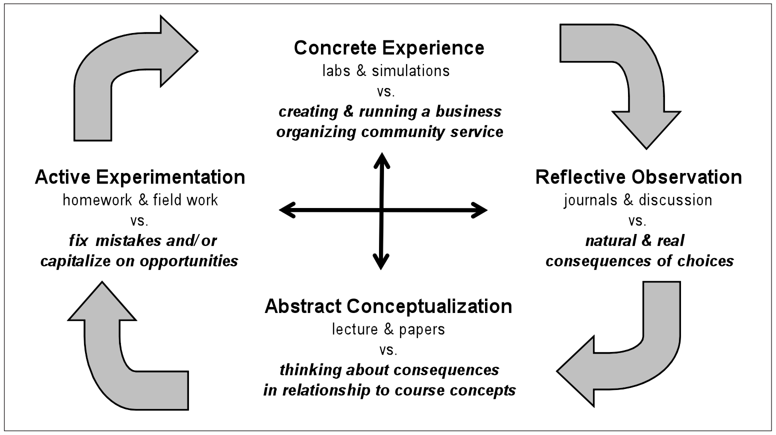
Kolb's Cycle of Learning (1984) supports the importance and impact of experience and application in learning. The cycle begins with a concrete experience—a particular action is carried out. The learner then reflects on the experience (reflective observation), draws conclusions (abstract conceptualization) and finally enters a phase of active experimentation where ideas and conclusions are tested. An example of how this process works in IBE is that students learn concepts related to product pricing in the classroom, which is abstract conceptualization. The concepts are put into active experimentation by setting a specific price and a sales strategy for the product they have decided to sell as part of the IBE practicum course. As soon as their product arrives from their supplier, students have the concrete experience of interacting with and experiencing the reaction of potential customers. Students inevitably reflect on their experience (reflective observation), and the cycle begins again as they adjust their prices and/or sales strategies. Because the experience is in a real business setting, the class content matter has already been transferred and applied to the real problems, decisions, and outcomes students will face in future jobs. The Cycle of Learning model was modified by Svinicki and Dixon (1987) to include primary descriptors of student learning for each phase, such as *feeling, watching, thinking,* and *doing*.

In this paper, the focus is on the outcomes that students are expected to perform and the impact that applied learning has on those outcomes. Using Kolb's cycle of learning, Svinicki and Dixon (1987, 1994) reframed the phases with horizontal and vertical axes. The vertical axis represents the range of input of information from concrete experience to abstract conceptualization, or "student as receiver". The horizontal axis represents the processing of information, as a range from active experimentation to reflective observation, or "student as actor." These axes for student tasks are included as crossed arrows at the center of Figure 3, which shows individual versus IBE instructional activities that support Kolb's model.

Svinicki and Dixon (1994) suggested individual tasks/activities that support Kolb's Cycle of Learning. Their practical ideas and activities for concrete experiences include fieldwork, poetry reading, laboratory experiments, and games. Journal writing or class discussion leads to reflective observation on those experiences. Abstract conceptualization occurs when students generalize concrete concepts, adapting them to new physical models. Svinicki and Dixon labeled this dimension "thinking." Examples of student thinking include situations that apply and test ideas in papers, projects, and model building. Finally, more case study, field, laboratory, or simulation work facilitates active experimentation, where the content is applied. Figure 3 shows Svinicki and Dixon's addition of classroom activities to Kolb's model. Svinicki and Dixon's examples of classroom activities are in regular font, and are compared to examples of IBE activities, given in italics.

This paper uses Kolb's cycle of learning to describe IBE's applied learning outcomes for experiential learning and development. This

Figure 3. Examples of Individual vs. IBE Instructional Activities that Support Kolb's Model



paper categorizes the outcomes of IBE using both the phases of the cycle and the axes. The IBE program naturally takes students through all four stages of Kolb's learning cycle, and consistently meets and exceeds learning outcomes.

INTEGRATIVE BUSINESS EXPERIENCE

We use Kolb's (1984) Cycle of Learning with Svinicki and Dixon's modifications for individual learning to provide a theoretical rationale for why the IBE approach enriches the student learning experience. The foundation of the IBE program was specifically designed to give students real-life experience in using business course related concepts. The real-life experience is the primary vehicle used to advance the development of academic learning and students' professionalism, personal values, and interpersonal skills. The IBE program has three applied learning outcomes: (a) to provide students with the opportunity to create and manage a small business enterprise, (b) to cultivate and reinforce the students' sense of corporate and ethical responsibility by requiring profits generated by the company to be used to assist a non-profit service project, and (c) to cultivate a sense of individual responsibility to the community by requiring the personal involvement of the student with the selected non-profit service project. We assess these outcomes using Kolb's model below.

KOLB'S AXIS OF ABSTRACT CONCEPTUALIZATION AND CONCRETE EXPERIENCE

Traditionally, much of a business curriculum is spent training students to use tools and theories to prepare them make better decisions, track data, and in general, prepare them for the kinds of jobs they will do after graduation—all of which are mainly categorized as *abstract conceptualization*. For example, students in an Information Systems course learn how to create spreadsheets, databases, project planning software, presentation software, and so forth. Similarly, Marketing students are taught about concepts such as using focus group or survey tools to identify a target market and Management students learn about tools and approaches for human resource assessment and performance tracking. Whatever the discipline, all too often the approach has been to lecture on the theoretical concepts from different business disciplines, with perhaps having students use the concepts in some sort of hypothetical setting such as analyzing a business case. In these scenarios, however, students rarely move beyond Kolb's stage of abstract conceptualization of content, because their experience is *purely* cognitive and the feedback they receive is limited to hypothetical consequences of

hypothetical choices. Increasingly, business courses attempt to increase the reality of students' experience by having them do field projects. However, in most cases the impact of most field projects is limited by the fact that the end product is a decision about a recommended course of action for their "client."

Although we strongly support the idea of having students do field projects, by providing students the opportunity to create and manage their own small business enterprise, IBE extends students' *concrete experience* (from Kolb's cycle) beyond well beyond what is possible from the vast majority of even the best-conceived field projects. That is because in IBE students' decisions are not the end product—they are the beginning of a series of learning cycles. In IBE, students acquire the business concepts just in time to use them to make real choices and experience feedback in the form of natural consequences. As a result, they have a far different motivation to both apply what they have learned and reflect on their experience. Further, because the consequences are real and immediate, they have the opportunity to learn to be innovative as they work their way through the challenges they inevitably face in the process of running their business and completing their community service projects.

For example, at the beginning of the program in the Management of Organizations course, they use decision-making concepts and goal theories to set company goals and determine how they will decide on a product for their business and a strategy for identifying and completing their community service projects. As the IBE program progresses, they are taught in their Management of Information Systems course to create and use a Gantt chart to plan and track their goals. Other courses teach financial and accounting concepts which are used by students to create budgets and Expected Income Statements, as well as liquidity ratios. These statements and ratios are presented to bankers in efforts to get a loan to finance their start-up business, another concrete experience. At the end of the program, when they close the books on the business, they report their revenues, expenses, and profit—real business metrics of success. In addition, the students have completed a hands-on service for a charity, and feel the pride and empowerment that their business and service success imparts. All of these concepts are first presented in the core classes as abstract conceptualization/thinking, but are moved through Kolb's continuum to actual concrete experience/feeling. The pedagogical innovation of IBE is not simply that the instruction tries to link the concrete experience to abstract concepts, but that the concepts now matter because students are employing them in a high-stakes situation. If they do not apply the concepts well, for example, they fail to secure the loan and thereby cannot complete the requirements for the coursework.

In addition to starting and running their own company, IBE cultivates and reinforces the students' sense of corporate and ethical responsibility by requiring profits generated by the company to be used to assist a non-profit service project. Many organizations are urging business schools to train students in ethics, hoping to increase their sensitivity to ethical issues. Most professions have a strong ideological and ethical component (Trank & Rynes, 2003) and business is no different. Beyond the call for ethical business training, there is a call to make social responsibility a meaningful part of business education (Kashyap, Mir, & Iyer, 2006). Students are introduced to discipline-related ethical issues and concepts (abstract conceptualization) in all three of the core courses. The concrete experience gained through IBE is that students use their business organization to make a profit that is then given to a charity.

Due to a combination of oversight from the bankers, high student motivation, and the fact that the companies have what amounts to free labor, there has never been an IBE Company loss. Students gain real-world business experience, with a service-learning goal (profit to be given away and services to be given to the charity) as a measure of that business experience. Working with and for a not-for-profit seems to naturally increase students' sensitivity to ethical issues and help them to develop an individual social responsibility. A recent study (Cai-Hillon & McCord, 2011) found that the IBE class encouraged student social responsibility development and the IBE service-learning curriculum significantly increased students' volunteerism. This occurs because they are experiencing ethical situations as opposed to simply talking and/or reading about them. In addition, IBE students both make choices and experience the consequences of their decisions, greatly increasing their applied learning.

Furthermore, as the students work throughout the semester with a not-for-profit, they start with a concept of what the charity is about and what the charity needs—abstract conceptualization. Later, as a result of concrete experience, IBE companies may change their service project plans midstream as they learn the true needs of the charity. For example, an IBE company initially planned to visit residents in the Veterans Home, but chose to add a more sustainable service by building benches and facilitating a new recreation room. Usually, IBE students volunteer the most near the end of semester as they develop and mature in their values and social responsibility, and as they come to better understand the needs of their service recipients. One indication of their increased social responsibility is that many of the IBE students continue to work with and for their non-profit groups after the semester is over (Cai-Hillon & McCord, 2011).

Another important learning outcome of IBE is to cultivate a sense of individual responsibility to the community by requiring the personal involvement of the student with the selected non-profit service project. As IBE students fulfill the requirement of "making a lasting difference" through organizing and carrying out hands-on community service work, many develop a deep sense of empathy for and commitment to those they serve. In addition, IBE students develop a greater level of personal competence, social justice responsibility, ability with interpersonal relationships and volunteer more than non-IBE students (Cai-Hillon & McCord, 2011). Although measures of empathy are hard to quantify, the depth of students' feelings about their service experience are evident in comments from their end-of-semester reflections. Quotes from end-of-semester reflections, included below, illustrate their personal growth, and how they take the concrete experience and real-world feedback at one end of Kolb's axis, reflect upon it, and turn it into an abstract conceptualization of planned action in future scenarios.

KOLB'S AXIS OF ACTIVE EXPERIMENTATION AND REFLECTIVE OBSERVATION

After the students learn the concepts and begin applying them in the concrete setting of their student company, they modify them to meet the unique needs of their service or business company, engaging in active experimentation. For example, although all IBE companies have a static website to showcase their product, we have had IBE companies expand the use of their website to advertise their service goals to the community, remind students of events, and provide a web-form for students to input their service hours (and sales for the charity) into a database, which is then used to track the number of hours donated. The databases are downloaded into spreadsheets to make charts and are placed in PowerPoint presentations so individual students can see how they compare in service to their peers. Marketing students have experimented with adding social media and viral marketing to more traditional face-to-face sales techniques. One IBE company president experimented with servant leadership by fasting and sleeping in a cardboard box in front of the Student Union for two days to bring awareness to their service organization's needs. All these examples of active experimentation were not anticipated by the instructors and led to higher motivation and learning outcomes of the students involved.

As students themselves examine the results of these experiments, they discover that not all resulted in greater efficiency, efficacy, or higher business metrics such as profit. Their reflections on these experiments are not only discussed at company meetings throughout the semester, but also shared in an individual website journal at the semester end. For example, business metrics such as "quantity of sales" did not support using social media advertising but did support viral marketing. Examining the reasons behind these failed and successful attempts provides strong learning that is retained much more than instructor lectures. So, by sharing what they have done and how they think they are performing, plus evaluating their peers' performance as company employees, they close Kolb's (1984) cycle through reflective observation and move across Svinicki and Dixon's (1994) axis of doing to watching.

The second learning outcome of IBE is to cultivate and reinforce an increased sense of corporate and ethical responsibility. As they implement their community service project, IBE students must do virtually everything managers actually do. Their first task is setting objectives, such as how to make a lasting impact through community service. In doing so, they reflect and discuss what is important to them, and in what community areas they most want to make a difference. Then they meet in groups to research, discuss, and decide how to spend their time and their money (company profit). In some cases, they raise money for one charity, but meet the needs of a different charity through hands-on work. They must organize events and find people to do the work, answer to charity and university stakeholders, assess the impact of their activities and track the resources used (money, hours, materials, etc.). In these activities, they are constantly experimenting with ways to be effective and efficient when assisting their charity (active experimentation).

At the end of the semester, part of the students' company final report is describing the impact they made on their charity. They have tracked throughout the semester metrics that they deem important, such as profit, hours served, hours served per person, impact on client charity, number of charity clients served or impacted, and so on. Deciding on their performance metrics for service, and then tracking and reporting those metrics at semester end requires reflection and closes the loop of Kolb's cycle. Individual and company reports have included quantitative metrics such as donations gained, hours served, grants written, and structures built or renovated. By applying ethical concepts to serving a real charity, their reflective observations of lessons learned are much more salient than using ethical cases or scenarios (see student quotes below). These reflections reinforce the student's increased sense of corporate and ethical responsibility.

The third learning outcome of IBE is to cultivate a sense of individual responsibility to the community by requiring the personal involvement of the student with a selected non-profit service project. The IBE students create and operate their business venture, choose their charity, and carry out their service project themselves. For many, interaction with a charity is new and forces them into active experimentation. They take considerable pride in how they use business and academic knowledge to succeed. At the end of the semester, each student creates a "Personal Portfolio," in which they reflect on what they learned and how they learned (reflective observation). In their reflections, students often express the deep meaning of their service activities. Many make a personal bond with service clients, and continue their volunteer work and relationships beyond the semester. Others focus on the lessons they learned about working with others, and/or operating a business. Some of their reflections are as follows:

> "When I asked and assigned company members to tasks, my job became easier and other members felt more included. I learned that this should have been one of the first things I did. No one got mad; if they didn't want me to tell them what to do, they wouldn't have elected me for president. I just needed to realize this sooner." Kendra
>
> "I hope to use what I have learned within the courses to establish myself in a company and also learn hands on experience as a manager. Some things can't be taught in a classroom and you have to learn them from experience. … I hope to be better at giving feedback because as a manager it is something I need to become comfortable doing. My approach is still very weak and I come off as not productive..." Ernestine
>
> "I always thought that people would only help me if they could get some sort of benefit from it. After participating in my company, I have realized that is simply not true. Most people are willing to help with anything you could need. Being part of a non-profit organization really opened my eyes to this." Dwayne
>
> "This experience has not only taught me the course material, or how to start and run a business, but also it has taught me a lot about myself. I am a very hard worker and always strive for success. I have also learned that I care about other people and their own opinions." Paula
>
> "For our service project, we planned a Bowling for Cancer night at the (University) bowling lanes. All the profits from this event were also donated to the American Cancer Society. I helped advertise the event as well as stay and supervise. The company also participated in the Relay for Life in (City). I volunteered my time by walking and selling shirts at this event. The service project was a great experience raising money for such a good organization. It has taught me important areas such as ethics, communication, and working with others as a member of a team." Ariadne

ASSESSMENT OF IBE PROGRAM BUSINESS AND SERVICE OUTCOMES

We face many of the same obstacles in assessing our program outcomes that we do when assessing the impact of a single course. For most of our outcomes, we rely on qualitative data from the students'

Personal Portfolios where they reflect on what they did and what they learned from their experiences. We have an advantage, however, in that we can assess students' learning by examining tangible deliverables produced by the companies and observing the processes through which they were created. These deliverables include such things as systems for handling money and company inventory, systems for tracking progress toward achieving company objectives, company web sites, advertisements, company documents and presentations. In fact, many of the deliverables provide compelling evidence of the positive academic impact of the IBE program. For example, in spite of the fact that students are enrolled in the introductory Management of Information Systems course, IBE companies have produced databases with web user interfaces that are more complex and work better than many senior-level IT capstone projects. In addition, we cannot help but conclude that students have increased understanding because they have actually used the databases to manage their inventory and to motivate company members to participate in company activities and projects.

In addition to the feedback from the members of the service organizations that is typical of most service learning courses, students get immediate and relevant feedback from other groups with whom company members interact. These include the bankers who must approve their loan requests, suppliers, various regulatory agencies both within the university and within the larger community, and customers. For example, in the past two years, two companies were not given a loan and had to modify their plans and reapply. This feedback from the bankers is a natural consequence of applying for a real loan. Every company must have any use of university logos evaluated and approved, and about half the time this process takes 2-3 iterations. One company was not able to get their product approved until the course was over three-quarters through! Many business people use the saying that actually trying to implement a business and make a profit is where the "rubber hits the road." Although profit is not a component of a student's grade, it is clearly a real indication of success using a real business metric–and every IBE company has made a profit. Although this seems impossible, it is made possible because the students give their business and community service labor for free, the faculty delivers content instruction that is specifically sequenced to provide real-time conceptual support for managing students' business and service ventures, and students are in competition with other peer companies and are strongly motivated not to fail.

Critics may wonder if some of the success of the IBE is due to a high proportion of highly motivated students choosing the IBE option for fulfilling their core course requirements. Even though the majority of IBE students are still from majors that require them to participate

in the program, this may be a valid point for two reasons. One is that, over time, there has been a steady increase in the number of students who enroll in IBE even though it is not a part of their major's requirements. The other is that students are increasingly choosing to come to our institution *because of IBE*. These students opt-into IBE at the point of deciding where to attend college, not at the point of deciding what courses to take. Thus, in a very real sense, the IBE has become a recruitment tool at the institutional level.

The most concrete data we use to assess the impact of the program are the number of service hours contributed at IBE company sponsored events and the amount of money contributed to community service organizations. Based on these measures, IBE has been a resounding success. The financial and community service performance of IBE companies has surpassed our wildest expectations. We have (one or both of the authors) worked with a total of 781 students in IBE between the spring semester of 2004 and the spring semester of 2011 at the University of Central Missouri. (The IBE program has been implemented at a number of other schools as far away as Indonesia.) These students have formed and managed 38 remarkably successful companies (see Appendix A for a company-by-company summary). In total, our IBE student businesses:

- Have received $96,991 in loans and have generated total revenue of $354,152 and total net profit of $193,332.
- Have provided to over 40 community service and/or voluntary non-profit organizations:
  - $193,332 in direct financial support from the efforts of IBE student businesses.
  - 11,962 hours of community service from IBE-organized activities (includes others whom IBE students have recruited to support their efforts).

One of the most valuable aspects of the IBE program is that we can make the content "real" by sequencing the topics so that students have intellectual and practical "tools" to use in creating and implementing their business and service ventures. As a result, the key document for organizing the classroom instruction and creating course syllabi for the three core content courses in IBE is a master calendar that shows the schedule of activities that the IBE companies engage in as part of the practicum course. Examples of these activities are in Figure 4.

FUTURE DIRECTIONS

The authors are engaged in two different types of efforts regarding IBE. One is that we are engaged in research that supplements

Figure 4. IBE Company Activities – Raising the Stakes

Examples of IBE Activities				
Kolb's Stage in Learning Cycle	**Concrete Experience**	**Reflective Observation**	**Abstract Conceptualization**	**Active Experimentation**
Cash Flow and Breakeven Analysis	Must procure loan for start-up from bank	Loan presentation and feedback	Feasibility of cash flow	Create cash flow, breakeven and ratios
Decide on Goals	Companies decide on essential conditions for company success, which leads to goals	Final company presentation and individual reflections	Group decision making concepts and goal setting theory	External business environment and internal company environment impacts achievement of goals
Financial and Accounting Controls	Students must create databases and spreadsheets to track inventory, money & service metrics	Bank account reconciliation, weekly use and final report	Accounting checks and balances, business metrics, income in and out	Students use their process in course of the business

anecdotal evidence with empirical data aimed at understanding and documenting both how and why this program has such a positive influence on students, as well as the extent to which participation in the IBE program impacts their performance in subsequent course work and their job performance and participation in community service activities in the early years of their careers after they graduate. At present, we are in the first year of analyzing data based on a maturity instrument developed by the authors and the Higher Education Service Learning Surveys (Diaz-Gallegos, Furco, & Yamada, 1990), which involves a pre-test (given in week 2) and post-test (given in week 15). In addition, we are in the process of collecting and analyzing data to see how the IBE experience affects student performance in a subsequent Production and Operations Management class.

The second goal of IBE's future is not research, but implementation. Given the overwhelming positive impact at each of the schools where IBE has been adopted, we strongly believe that we should do all we can to ensure that similar opportunities are given to as many students as possible. As a result, we are actively engaged in a number of efforts aimed at exposing faculty to the benefits of IBE and to the requirements for implementing similar programs at their institution. These efforts include: (a) presenting conference sessions on IBE, (b) developing an IBE textbook, (c) making campus visits to other schools to inform them about the IBE program, (d) extending invitations for faculty from other schools to visit our university to talk with IBE students and see them in action, and, (e) actively looking for opportunities to expose other educators to the IBE program and its benefits (e.g., IBE has been featured in a recent *BizEd* article (Bisoux, 2011)).

Appendix A – Integrative Business Experience (IBE) Business and Service Summary

Company Information			Business Activities				Service Activities	
Term	*Company Name*	*Company Members*	*Product or Service*	*Loan Amount*	*Gross Revenue*	*Net Profit**	*Community Service Recipients*	*Service Hours*
Sp. 2011	MO on the Go	23	UCM Travel Mug	$2,800	$8,188	$4,227	Survival Adult Abuse Center	436
Sp. 2011	Cups of Hope	20	UCM Tumbler w/straw	$2,020	$6,157	$3,125	Early Childhood Hunger Operation	463
Sp. 2011	The Green Machine	7	Assorted Tumblers	$500	$6,363	$3,099	Bridging the Gap	175
Fall 2010	Survival Sweats	26	UCM Sweat Pants	$2,500	$9,489	$3,819	Survival Adult Abuse Center	402
Fall 2010	MO Active	26	UCM Water Bottles	$1,635	$6,761	$5,103	Warrensburg Parks and Recreation	433
Fall 2010	MO'lympians	25	UCM Sweat Bands	$2,730	$4,670	$2,197	Special Olympics & W.I.L.S.	267
Sp. 2010	I Be Mo' Dry	34	UCM Beach Towel	$4,200	$10,456	$5,565	Big Brothers Big Sisters	470
Sp. 2010	Mules With Hearts	34	UCM Playing Cards	$2,210	$7,632	$4,069	Knob Noster Park/Connected Hearts	790
Sp. 2010	Central MO Promotions	12	Golf discount card	$1,500	$9,988	$6,010	Kansas City Autism Alliance	196
Fall 2009	MULEstrong	29	LS Mule T-shirt	$1,400	$7,456	$4,783	Show-Me Youth Home	704
Fall 2009	Habitat Hoodies	29	UCM Hoodie	$3,210	$12,632	$7,169	Habitat for Humanity/WBG Veterans Home	385
Fall 2009	FrostPint	27	UCM frosted glasses	$2,500	$7,988	$5,223	Big Brothers Big Sisters	340
Sp. 2009	Thirsty Mules	25	UCM Water bottle	$0	$9,142	$5,714	Show-Me Youth Home	414
Sp. 2009	Mo' Gear	29	Mule T-shirt	$2,875	$13,925	$5,182	Big Brothers Big Sisters	433
Sp. 2009	I Be Savin	13	Super Saver card	$800	$4,191	$3,158	Boy Scouts of America	100
Fal l2008	Happy Hooves	24	UCM slippers	$5,000	$12,295	$5,267	West-Central Independent Living Solutions	652
Fall 2008	Mo' Time	26	Calendar '09	$3,200	$10,380	$6,693	Survival Adult Abuse Center	668
Fall 2008	Warming Way	24	UCM Mule Blanket	$0	$14,846	$7,608	Red Cross	357
Sp. 2008	Good Directions Signs	24	UCM & Pine St. signs	$3,000	$11,890	$8,507	Big Brothers Big Sisters	453
Sp. 2008	Dry Up Hunger	23	UCM Beach Towel	$4,300	$14,628	$7,780	County Food Pantry/Veterans Home	300
Sp. 2008	Penticast	5	USB Drives	$4,200	$9,110	$4,318	Kansas City Downs Syndrome Guild	32
Fall 2007	Central Time	27	UCM Historical Poster	$500	$10,516	$7,672	Habitat for Humanity	368
Fall 2007	MO' UnderCover	28	UCM Umbrellas	$5,000	$10,222	$5,442	Animal Shelter & Middle Schools	222
Fall 2007	Chairs That Care	28	UCM Folding Chair	$5,000	$35,004	$25,929	Adult Abuse Center/Warrensburg Schools	438
Sp. 2007	Glass with Class	8	UCM Glasses	$1,200	$6,868	$3,776	March of Dimes	40
Sp. 2007	Keepin' It Kool	20	UCM Coolers	$1,988	$11,941	$6,871	Show-Me Youth Home/Knob Noster Park	170
Sp. 2007	Raise Mo' Money	21	Mo Bobbleheads	$3,343	$12,050	$4,096	WBG Veterans Home/Knob Noster Park	228
Fall 2006	Get Your Lid on	24	UCM Baseball hats	$2,851	$8,082	$4,416	Salvation Army	310
Fall 2006	Central Warmth	24	UCM metal travel mug	$2,800	$12,330	$6,117	Project Warmth	337
Sp. 2006	I Be Photography	4	Photography Sittings	$2,950	$1,743	$1,314	Nathan Crabtree, Wayside Waifs, PTA	400
Sp. 2006	I Be Baggin'	18	CMSU drawstring bag	$2,605	$7,828	$3,460	Muscular Dystrophy Assoc	183
Sp. 2006	Central Tendency	17	"the Burg 55" t-shirt	$2,504	$5,215	$1,866	WBG Veterans Home/Adult Abuse Ctr.	163
Fall 2005	IBE KickBack	16	"KickBack" t-shirt	$2,289	$4,785	$2,225	Camp Quality	121
Fall 2005	Not Another Shirt Co.	16	Mule Poster	$1,992	$4,949	$3,100	American Red Cross Hurricane Relief	106
Sp. 2005	IBE Wild Card	20	"Burg" t-shirt	$2,350	$9,190	$3,682	American Cancer Society	105
Fall 2004	IBE Solutions	18	"Pine St" T-shirt	$2,469	$5,733	$2,197	Habitat for Humanity	101
Fall 2004	Slap Happy	18	"Burg" glasses/Koozies	$2,596	$3,554	$1,672	YES/ Warrensburg Recreation	100
Sp. 2004	Just Scrub It	21	CMSU Medical Scrubs	$3,975	$5,957	$882	Red Cross/Big Brothers Big Sisters	100
	Total Students:	813	Financial Totals:	$96,991	$354,152	$193,332	Service Hour Totals:	11,962

*Includes cash and matched donations.

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Alternative Teacher Certification: The Case for Transition to Teaching

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Alternative certification of teachers recognizes pedagogical experience beyond traditional classroom coursework as a route to teacher certification. This study examines the process and outcomes of the Transition to Teaching alternative certification program. Comparisons of instructional quality along several dimensions show that the Transition to Teaching participants were evaluated as exhibiting slightly higher than average levels of instructional quality across most dimensions compared to traditionally certified teachers. These findings provide further evidence to support the growing interest in alternative teacher certification as a way to generate highly competent teachers.

Campus-based teacher education programs have traditionally been the primary path by which teacher candidates are prepared and certified as classroom teachers. This has not always been the case in the United States, however. In the early days of this country, teachers often had no formal training, and if they did, that training occurred in a variety of settings that today would be deemed non-traditional. Apprenticeships were a common way to acquire the knowledge and skills one needed to engage in a career, as well as attendance at study groups, sermons, and public lectures. "The setting determined the identity of the teacher, who could be any of a number of persons: a parent, a preacher, a master craftsman, an association leader, an adult in the neighborhood, an itinerant tutor, a private contractor, a town official, a corporate employee, or a college professor" (Labaree, 2008, p. 291).

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The development of public school systems beginning in the 1830s precipitated a movement toward more consistent teacher preparation, advocated by education leaders of the day such as Horace Mann and James Carter. Summer teacher institutes were developed and were followed by "normal" schools (which set the norm for good teaching, hence the name) that gave teacher candidates a grounding in the art of teaching—pedagogy—during a one to two year program of study. These normal schools evolved into the college- and university-based teacher preparation programs most widely used today (Labaree, 2008). In fact, the University of Nebraska at Kearney itself began in 1905 as the two-year Nebraska State Normal School to prepare teachers for the growing number of public schools in the relatively young state (University of Nebraska at Kearney, 2005).

During the past several decades, however, a growing need for teachers in hard-to-fill geographic areas (primarily urban and inner-city schools) and subject areas (especially math and science) due to higher salaries in private-sector jobs has spurred the recruitment of potential teachers from sources other than the college campus. No longer are colleges and universities the sole providers of teacher candidates; in California and New Jersey respectively, alternative paths to teacher certification account for thirty to forty percent of new teacher hires. In Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, South Carolina, Tennessee, and Virginia, the number of alternatively certified teachers trained and hired is growing rapidly as well (National Center for Education Information, 2011).

Our own national history indicates that this trend bears connection to the roots of teacher education in America. Yet just twenty years ago, "the idea that high quality teachers could be recruited from outside established education channels was regarded as avant-garde, if not downright radical" (Feistritzer, 2005, p. 1). Today, state departments of education have responsibility for certifying teachers; every teacher in a public school must obtain teaching certification in the state in which he or she is teaching. All fifty states report having in place some type of alternative path to teacher certification. There are 136 state-defined alternative paths to teacher certification, utilizing nearly 600 supporting programs. One-third of these alternative paths have been created since 2000, and more than half of them have been established

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in the last 15 years (National Center for Education Information, 2011). Approximately one-third of all new teachers now being hired in the United States are following alternative paths to teacher certification (Feistritzer, Gallagher, & Henderson, 2009).

The development of alternative paths to teacher certification received a significant boost in 2001 when grant money became available from the United States Department of Education for the express purpose of developing alternative teacher certification paths and their supporting programs; ninety-one Transition to Teaching grants were distributed in 2002. The Transition to Teaching grant program continues to provide both new and continuation funding to applicants; in 2010, ninety-three continuation awards were given averaging $468,000 per award (United States Department of Education, 2008).

QUALITY OF ALTERNATIVELY CERTIFIED TEACHERS

Alternatively certified teachers possess bachelor's degrees specific to their subject areas of expertise before entering an alternative certification program. Many have amassed several years of employment and thus have real-world experience in careers utilizing their expertise. Nationally, nearly forty percent of alternative teacher certification candidates have a master's degree or higher, and most are recruited for areas where demand for teachers is the greatest—large cities and now rural areas—and in subject areas in greatest demand, including mathematics, science, and special education (Feistritzer, 2005).

An interim evaluation of the United States Department of Education Transition to Teaching (TTT) first full cohort of 2002 grantees was conducted to determine how the program addressed policy concerns raised by No Child Left Behind legislation—namely, recruiting and retaining highly qualified teachers into the schools and classrooms that need them most, and developing and expanding alternative paths to teacher certification "under State-approved programs that enable individuals to be eligible for teacher certification within a reduced period of time, relying on the experience, expertise, and academic qualifications of an individual, or other factors in lieu of traditional course work in the field of education" (Ludwig, Bacevich, Wayne, Hale, & Uekawa, 2007, p. 1). Findings from this report indicated that the grantees were indeed highly successful in attracting a large number of applicants for their programs. These transitional teacher candidates reported that their motivation for becoming teachers was driven by their desire to work with young people (64%); most felt well prepared to teach their subject area (74%). Twenty percent of TTT grant participants indicated that they would not have entered the teaching field if the TTT option had not been available (Ludwig et al., 2007).

But does motivation to teach and self-reported satisfaction with preparation to teach translate into good teaching? A final report on alternative teacher certification routes was commissioned by the United States Department of Education and produced in 2009. It sought to address the effects on student achievement of teachers who were trained through alternative routes and to determine what aspects of the alternative teacher certification program may be associated with teacher effectiveness (Constantine et al., 2009). Although supporters of traditional teacher certification programs have argued that alternatively certified teachers are insufficiently prepared and therefore less effective than traditionally prepared teachers, the findings of the report indicated:

- There was no statistically significant difference in performance between the students of alternatively certified teachers and traditionally certified teachers, and
- There is no evidence that greater levels of teacher training coursework were associated with the effectiveness of alternatively trained teachers in the classroom, nor is there evidence that the content of the coursework is correlated with teacher effectiveness or that even an undergraduate major in education is correlated with student achievement (Constantine et al., 2009, p. 69).

This Department of Education study corroborates earlier study results compiled by the American Educational Research Association from 1999 until 2005, where the findings regarding alternative paths also indicated that there was no difference between alternatively and traditionally certified teachers in terms of teacher efficacy or in teaching competence as measured by classroom observations (Cochran-Smith & Zeichner, 2005). Additionally, the National Center for Education Information reports that actual experience in teaching is the number one variable in developing competence to teach, followed by working with other teachers/colleagues, and that clinical experiences are much more valuable to the alternatively trained teacher candidates than coursework (Feistritzer, 2005). Alternative teacher certification paths, then, appear to be producing precisely the kinds of teachers that No Child Left Behind requires schools to have: teachers who are highly qualified in their subject areas of expertise.

Even the National Council for Accreditation in Teacher Education (NCATE) advocates putting the experiential learning of pedagogy at the center of teacher preparation. In a news release dated November 16, 2010, NCATE experts

> [c]alled for teacher education to be 'turned upside down' by revamping programs to place clinical practice at the center of teacher preparation. This new vision of preparation also will require the development of partnerships with school districts in which teacher education becomes a shared responsibility between P-12 schools and higher education. (National Council for Accreditation of Teacher Education, 2010)

Other recommendations include the attraction of more academically prepared and diverse candidates into the teaching profession—as alternative certification paths have done—and supporting a more clearly defined research agenda to

> [d]ocument and provide evidence of the impact of practices in clinical preparation on teacher effectiveness. The Panel's recommendations are consistent with a recent report of the National Research Council which notes that clinical preparation is one of three areas most promising for potential increases in teacher effectiveness in the classroom. (National Council for Accreditation of Teacher Education, 2010)

ALTERNATIVE CERTIFICATION IN NEBRASKA: TRANSITION TO TEACHING

The Nebraska Department of Education (NDE) was awarded one of the 91 Transition to Teaching grants distributed by the United States Department of Education in 2002. Upon the award of the grant, NDE partnered with the University of Nebraska at Kearney (UNK) to implement a Transition to Teaching (TTT) alternative certification program via the establishment of a State Assessment Center within the UNK College of Education. The center's director was hired to recruit to the program mid-career professionals and recent college graduates with baccalaureate degrees who sought to become teachers in the state of Nebraska, particularly in high-need areas (rural) and subjects (math, science, foreign language) unique to Nebraska at grades 7-12.

Having a transitionally certified teacher as the teacher of record requires considerable participation and up-front commitment from both the employing school district and from the university (Feistritzer et al., 2009). Requirements for entry into the TTT program were developed as follows (Nebraska Department of Education Alternative Certification, 2011):

- Applicant must have a baccalaureate degree that includes at least 75% of the course requirements for preparation in a grade

7-12 field or subject endorsement area. The degree and other subject-area coursework may come from institutions of higher education other than UNK.

- The superintendent or governing body of the school system in which the applicant intends to teach must provide a written request to the Nebraska Department of Education for the issuance of a transitional teaching certificate. The request must include documentation that the school system has not otherwise found a fully qualified teacher for the position.
- Assessment of transcripts is completed by the State Assessment Center Director and a plan developed for completion of an approved initial teacher certification program, including passing the Praxis exam. This sequence of professional teacher education coursework must be completed through UNK.
- The hiring school system provides a written plan for mentoring and supervision of the applicant.
- Applicant completes a pre-teaching seminar that includes information and skill development in the areas of diversity, classroom management, curriculum planning, and instructional strategies prior to assuming responsibility for the classroom.
- UNK provides at least one supervisory visit each semester to the school system employing the applicant (University of Nebraska at Kearney Transition to Teaching Office, 2010).

The professional teacher education coursework developed by UNK teacher education faculty for this program is a sequence of three six-credit-hour courses taught online for three subsequent semesters, allowing the now transitionally certified teacher to learn experientially while teaching in his and her own classroom, connecting pedagogical theory to practice on a daily basis—in essence, on-the-job training. The course objectives are designed around the Nebraska Department of Education (NDE) requirements for all teachers of reading and writing: teaching competencies, training in human relations, special education coursework, competencies in working with learners of high ability, technology competencies, and competency in the assessment of student learning (Nebraska Department of Education Rule 20, 2008). The eighteen-hour course sequence is complemented by student teaching (assessment of teaching knowledge, skills, and dispositions by school administrators and university supervisors) to fulfill NDE requirements for recommendations for full initial certification. As of the 2010-2011 school year, the student teaching requirement is now fulfilled across the duration of the course sequence, rather than in one semester occurring only at the end of the program as is the case with traditional undergraduate teacher training programs. This allows for more consistent supervision of instruction by UNK faculty and school administrators across time.

Since the fall of 2003, 242 people have become fully certified to teach in the state of Nebraska through the Transition to Teaching program at the University of Nebraska at Kearney. The program has an 81% retention rate, and the subject areas of greatest need that have been met by transitionally certified teachers are—Foreign Language (24%), Science (19%), Vocational Education (17%), Language Arts (12%), Math (10%), Fine Arts (9%) and all other subject areas (11%). Participants come from many backgrounds and experiences. The age range of these TTT participants is 22 to 63, with most in their early- to mid-thirties. Fifty-three percent of TTT participants are female, and 47% are male. Eighty-eight percent of TTT participants are Caucasian and 12% are minority populations including Asian, Hispanic, Native American/North American Indian, Pacific Islander, black, and bi-racial. Sixty percent have been mid-career changers, while others have been new or recent graduates and paraprofessionals.

QUALITY OF TRANSITIONALLY CERTIFIED TEACHERS

At UNK, transitionally certified teachers are evaluated on the same criteria as traditional undergraduate teacher candidates, both at the culmination of student teaching and at the conclusion of one year of employment, and are formatively assessed with the same common assessment tools as indicated in Accreditation Data Tables in the UNK College of Education website (2010). TTT participants were evaluated by university supervisors on their abilities in the areas of lesson planning for desired outcomes and objectives, assessment and evaluation, instructional planning and materials, instructional delivery, classroom management, and teaching dispositions (collaboration, reflection, responsibility) at the culmination of their student teaching experience during a five semester period (Spring 2009 through Spring 2011), as were traditional undergraduate teacher candidates. Table 1 shows the

Table 1. Percentage of Instances that Teacher Candidates Met or Exceeded Standards in Evaluated Areas

Areas evaluated	Transitionally certified teachers (*n* = 97)	Traditional undergraduate teacher candidates (*n* = 763)
Lesson planning for desired outcomes and objectives	96.2	93.0
Assessment and evaluation	91.0	89.0
Instructional planning and materials	92.8	88.3
Instructional delivery	92.0	88.8
Classroom management	89.8	88.5
Teaching dispositions	96.3	95.7

Table 2. First-year Employment Ratings Using Likert Scale Averages for Criteria Assessed
(5 = excellent, 4 = good, 3 = average, 2 = fair, 1 = poor)

Criteria assessed	Transitionally certified teachers (*n* = 85)	Traditionally certified teachers (*n* = 576)
1. Considers the needs of diverse learners when planning lessons.	4.08	4.03
2. Identifies and adapts to the needs of diverse learners when teaching.	4.04	4.11
3. Creates a positive learning environment for students.	4.38	4.40
4. Provides appropriate individualization of instruction for special needs students.	4.03	3.92
5. Uses a variety of effective teaching strategies in planning lessons.	4.20	3.98
6. Uses a variety of effective teaching strategies when presenting lessons.	4.21	3.98
7. Plans lessons that engage students in all levels of thinking and learning.	4.15	3.91
8. Teaches lessons that engage students in all levels of thinking and learning.	4.08	3.87
9. Assesses individual learners' needs.	4.04	3.94
10. Plans learning activities clearly related to lesson objectives.	4.22	4.20
11. Uses teaching techniques related to lesson objectives.	4.20	4.12
12. Uses teaching techniques related to learner needs.	4.10	3.99
13. Uses available instructional resources.	4.39	4.10
14. Incorporates technology to facilitate student learning.	4.24	3.82
15. Uses technology in planning lessons and/or classroom management.	4.17	3.76
16. Teaches appropriate curriculum in all content areas.	4.38	4.28
17. Assesses the learning of all students.	4.19	4.10
18. Uses assessment results to plan instruction.	3.72	3.79
19. Uses bias-free interpersonal skills with all students.	4.30	4.24
20. Communicates effectively with students.	4.26	4.24
21. Communicates effectively with peers.	4.25	4.19
22. Communicates effectively with supervisors.	4.32	4.23
23. Communicates effectively with parents.	4.03	4.09
24. Makes decisions using professional ethical standards as a guide.	4.37	4.23
25. Uses effective classroom management strategies.	3.96	3.96
26. Participates in continuing education and/or professional growth.	4.20	4.07
27. Communicates appropriately with colleagues via internet.	4.16	4.15

percentage of the time that each area evaluated met or exceeded expectations for each group.

First-year employment ratings are gathered from school district administrators who evaluate their first-year teachers each semester on 27 items, using a 5-point Likert scale (5 = *excellent* and 1 = *poor*). Table 2 shows the average rating for each criterion for transitionally certified teachers and traditionally trained teachers compiled during the seven semester period of Spring 2007 through Spring 2010 (University of Nebraska at Kearney College of Education Accreditation Data Tables, 2010).

These preliminary data would indicate that TTT participant quality is comparable to traditionally prepared teachers at the conclusion of student teaching and their first year of employment. Further study is warranted to determine what variables may contribute to higher skill ratings such as demographic factors (age, gender, ethnicity), subject areas, or specific aspects of the teaching training itself (face-to-face, online).

RECRUITING AND RETAINING TRANSITIONAL TEACHERS

A national survey conducted by the National Center for Education Information and reported in the 2005 Profile of Alternate Route Teachers indicated that of the 35,000 survey respondents, about half (47%) of the individuals entering teaching through alternative paths say they would not have become teachers if an alternate path had not been available. Only about 20% said they would have gone back to a campus-based setting to get a teaching certificate. The data further indicated that the older one gets, the less inclined one is to enter teaching without an alternative path. More than half (59%) of those surveyed who were in their fifties or older when they entered an alternative path said they would not have entered the teaching profession if an alternate path had not been available. Half (50%) of those in their forties, 46% of those in their thirties, and 45% in their twenties said they would not have become teachers if an alternative path had not been available. In addition, the survey data showed that the alternatively certified teacher population has more males, more minorities and more older people than the population of teachers who obtain certification via the traditional route, contributing to a more diverse teaching force (Feistritzer, 2005). Similar observations have been made in the Nebraska Transition to Teaching program, though to a much lesser degree.

Teaching competency, according to alternatively certified teachers, develops best through one's own teaching experiences and life experiences in general and through the input of other teachers and colleagues (Feistritzer, 2005). To this end, the Transition to Teaching program at

UNK puts the actual teaching experience at the core of pedagogical development. Experiential learning, then, becomes the vehicle through which participants connect the content of their professional teacher education coursework with real students in real classrooms. Because participants in the TTT program are scattered all over the state of Nebraska, many in quite rural areas, access to traditional on-campus teacher education coursework is limited and logistically difficult to access. The TTT program accommodates these teachers by delivering the coursework online so that they can maintain residence in the locale where they teach, resulting in high participant satisfaction in the program (McCarty, 2010). In fact, a 2009 study by the United States Department of Education found that students who take all or part of their classes online perform better on average than those taking the same courses through traditional face-to-face instruction (United States Department of Education Office of Planning, Evaluation, and Policy Development, 2010).

The depth and breadth of the life experiences that alternatively certified teachers bring to the teaching profession is typically unmatched by their more traditional counterparts. They are often better equipped to answer their students' questions of "Why do we need to know this? How will we use this in real life?" because they have lived the answers. Because alternatively certified teachers are themselves learning by doing, they recognize the value of experiential learning for their own students. Doing so has the potential to improve student learning outcomes, and as such would be viable areas for additional future research. Possible additional research questions include:

> What are the primary teaching strategies used by transitionally certified teachers?
>
> How do they compare to those used by traditionally trained teachers?
>
> How do student learning outcomes compare when examined on the basis of specific teaching strategies used by the teacher?

As in the early days of our country, when "the setting determined the identity of the teacher" (Labaree, 2008, p. 291), today's teachers are both highly qualified and more diverse thanks to the development and growth of alternative teacher certification. Although teacher shortages overall are not currently prevalent, many teachers are lost each year through turnover and early attrition. This puts school districts in a perpetual state of intense hiring pressure when only 60% of traditionally trained teachers actually move directly into teaching jobs, and of

those who do, only 50 to 60% are still teaching five years after entering the profession. "Due to low salaries, poor administrative support, student discipline problems, lack of faculty influence and autonomy, and poor student motivation, many teachers change jobs each year and many leave the profession altogether" (American Association of State Colleges and Universities, 2005). On the other hand, alternatively certified teachers tend to stay in the teaching profession longer after entry. Nearly two-thirds (62%) of the respondents in the Profile of Alternate Route Teachers survey expected to be teaching five years into the future, and states with the highest percentage of alternatively certified teachers reported that 87% of them were still teaching five years after hire (Feistritzer, 2005).

Even though alternatively certified teachers have made a significant commitment to their career change, the retention of transitional teachers, just like traditionally trained teachers, requires ongoing training and support. As Breaux and Wong (2003) note,

> New secretaries do not receive a mentor. They are trained and assisted. Doctors, factory workers, actors and actresses, chefs, electricians, and dental hygienists do not receive a mentor. They are trained and assisted. Even million-dollar-per-year athletes are trained, every day, all year long, every year. In every aspect of the working world, people are trained and assisted. New teachers, on the other hand, often receive no training. Typically, they are thrown into a classroom and left to survive as best they can. (p. 63)

The point is that, "just as it takes a village to raise a child, the success of new teachers is the responsibility of the entire educational community" (Breaux & Wong, 2003, p. 64). The most effective professional development programs are those that allow new teachers to observe others, to be observed by others, and to be part of networks or study groups where all teachers share with each others and respect each other's work (Breaux & Wong, 2003). In Nebraska, transitionally certified teachers come into their first classrooms with expectations that they will be observed, supervised, and mentored through the requirements of their Transition to Teaching program, both face-to-face with their university supervisor and their school administrator, and online through their coursework professor. Continuing this process after completion of the Transition to Teaching program would be consistent with current research on successful teacher induction programs.

CONCLUSION

The schools and classrooms of today are not the schools and classrooms of twenty years ago; therefore, why should teacher preparation programs of today look like the traditional teacher preparation programs of twenty years ago? Meeting the needs of today's schools means preparing and providing highly qualified teachers in identified shortage areas. Meeting the needs of prospective transitional teachers in Nebraska means using an experiential learning and intensive supervision and mentoring model such as that provided by the Nebraska Transition to Teaching program.

NCATE acknowledges that "clinically based programs may cost more per candidate than current programs, but will be more cost-effective, cutting turnover costs for P-12 schools and yielding educators who enter the field ready to teach" (National Council for Accreditation of Teacher Education, 2010). Though we have all heard "Those who can, do," those doers enter the teaching field through alternative paths and provide their students with real-life examples of what it means to learn experientially. Those who can, also teach—and teach well.

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Transforming Lives and Social Justice: Educational Psychology Students Working with At-Risk Youth

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This study connected a service learning project with the mission of the university by examining how students described the concepts of "transforming lives" and "social justice." Twenty-one undergraduate students worked as mentors with at-risk children and youth. The roles of the students and the community partner had an impact on transforming the lives of the children and youth, as well as personal transformation. Social justice was discussed in terms of observed inequities and how the community partner was addressing the inequalities. Results suggest that this type of reflection component can be used to enhance students' ability to explicitly connect with the mission of the university and the values it articulates.

Rockhurst University is a Jesuit institution whose mission focuses on several core values. One of these core values, "Contemplation in Action," incorporates both issues of social justice and ideas of transforming lives (Rockhurst University, 2007). This value states that "We are committed to just action through leadership and service; therefore, we strive: …To be agents of transformation especially in the areas of social justice and equality. To bring our best resources to bear on creative responses to problems and challenges…" (Rockhurst University, n.d., para. 8). As a recent designee of the Carnegie Community Engagement Classification, Rockhurst University is committed to service in the larger community. There are many levels of support given to faculty to incorporate service learning into their courses as a means to connect curriculum and community, and to enhance student learning. Service learning is one mechanism by which students may engage in

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Contemplation in Action and understand issues of transforming lives and social justice.

Steeped in Jesuit tradition and Catholic faith is a rich history of promoting social justice, calling not only for social awareness of inequities that exist, but for action both in terms of direct aid and in correcting the structures that perpetuate the need. The focus of Jesuit education is to bring about a personal transformation in students so that they may, in turn, transform the world (Arrupe, 1973; Kolvenbach, 2000). Although there are various conceptions of transformative learning, such as Mezirow's (1991) idea of "perspective transformation" and the concept of "knowledge transformation" from critical social theory (Carrington & Selva, 2010), the Jesuit approach focuses on "personal transformation," which is specifically intertwined with social justice concerns. It is through an individual's experience with a social justice issue and reflection on that experience that a personal transformation occurs, leading to action to change the community for the better (Lowney, 2003). The Jesuit idea of personal transformation is not necessarily incompatible with other forms of transformative learning; for example, all of the concepts of transformative learning previously mentioned involve a long-term, fundamental perceptual or behavioral shift. But the Jesuit idea is unique in that it embeds the personal transformation specifically within the context of social justice issues. In keeping with the mission of the university, this paper focuses on the Jesuit idea of personal transformation as change for the better to improve the quality of life for the community.

Research has supported service learning as a pedagogy for promoting student learning and effecting change in the community (Berman, 2006; Eyler & Giles, 1999). However, service learning courses vary in many ways and not all courses necessarily foster student learning. Levesque-Bristol, Knapp, and Fisher (2010) examined the relationships between the learning climate of the classroom, motivational needs, and forms of motivation in the context of service learning courses. They examined three motivational needs: autonomy, referring to choices and options for the students; competence, defined as mastery provided by the learning environment; and relatedness, or a sense of connectedness provided by the learning environment. They also examined how these factors impacted the effects of service learning. As hypothesized, there were significant positive relationships between the learning climate and the three motivational needs. Only

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competence was related to positive forms of motivation, such as high intrinsic motivation. Positive effects of service learning were observed when service learning was perceived by the students as enhancing the learning environment. Levesque-Bristol et al. also found that several key components were instrumental in effective service learning: direct involvement with individuals receiving services, opportunities for class discussion about service learning experiences, and written reflections were related to students' perceptions of positive learning climates.

Eyler and Giles (1999) have identified several components related to academic benefits of service learning: active and connected learning, acquisition of useful knowledge, development of critical thinking skills, and transformational learning. The component of transformational learning has been examined by scholars working in the field of service learning. For example, Eyler and Giles documented that while students' perspective transformation occurred, it did not happen frequently. Kiely (2005) described five categories of how students experience transformational learning before and after engaging in an overseas service learning program. Carrington and Selva (2010) utilized service learning reflection logs from pre-service teachers as a source of evidence to document transformational learning. Specifically, the pre-service teachers demonstrated an enhanced understanding of inclusive education and an increased understanding of the needs of a diverse population.

The purpose of this study is to examine how students describe "transforming lives" and "social justice" by connecting those concepts to their service learning project. Students worked as mentors with children and youth who were considered to be at risk. Students who are at risk are "those who are in situations that can lead to academic, personal, and behavioral problems that could limit their success in school and later in life" (Smith, Polloway, Patton, & Dowdy, 2008, p. 424). Several characteristics of at-risk children have been identified in the literature. For example, these students often have difficulty learning basic academic skills (Pierce, 1994), low school engagement (Rumberger, 1995), poor school attendance (Finn, 1989), behavioral problems, or substance abuse issues (Jordan, Lara, & McPartland, 1996). For many of these students, there is often a lack of parental involvement, a high rate of poverty, and limited access to resources (McCluskey & May, 2004). Without special interventions, many of these children will be retained in school (Steinberg, Blinde, & Chan, 1984), increasing the likelihood that at-risk students will drop out of school and not graduate (Connell, Halpern-Flesher, Clifford, Crichlow, & Usinger, 1995), further compounding their problems later in life (Barton, 2005; Wu, Schlenger, & Galvin, 2003).

Mentoring programs are frequently used with students who are at risk. The effectiveness of these programs varies based on such factors as the frequency of mentoring (Keating, Tomishima, Foster, & Alessandri, 2002), the method of evaluation (Broussard, Mosely-Howard, & Roychoudhury, 2006), and the goals of the program (Jekielek, Moore, Hair, & Scarupa, 2002). But there is a modest and growing body of research that has found positive results of mentoring programs. For example, Welkowitz and Fox (2001) implemented a four-year program for high school students who were at risk for emotional and behavioral disabilities. Students worked in small groups, led by an adult mentor, to design and implement community service projects. Students also constructed individualized personal learning plans where they explored an area of interest. After four years, Welkowitz and Fox found improvement in students' problem-solving skills, conflict resolution abilities, and self-esteem. In addition, Cohen, Kulik, and Kulik (1982) reported improvements in students' reading, school success, and general social skills in after-school mentoring programs with structured literacy components. Specific improvements in students' social competence and decreases in antisocial behaviors were reported by Caldarella, Adams, Valentine, and Young (2009), who evaluated a school-based mentoring program for elementary school children at risk for emotional and behavioral disorders.

Because at-risk children and youth often come from disadvantaged backgrounds and given that effective intervention is crucial to overcome current and future problems, a service learning project in which students mentored at-risk children and youth was developed. This was a pilot study to see whether and how students could connect the project to the mission of the university, specifically to the concepts of "transforming lives" and "social justice."

DESCRIPTION OF THE PROJECT

Twenty-one undergraduate students enrolled in an Educational Psychology course during the Fall 2010 semester completed a minimum of eight hours at one of two sites. Nineteen of the students were Education majors and two of the students were Psychology majors. Two community partners were chosen.

Kansas City Urban Youth Center (KCUYC) provides a structured after-school program for urban youth located in two apartment complexes, one in Kansas City, Missouri (MO) and the other in Kansas City, Kansas (KS). Students worked as reading mentors and homework tutors. Thirteen students were placed at the MO site, which serves 30 youths, while four students were placed at the KS site, which serves 23 youths. Youngsters served at KCUYC range from K-8th grade, with the majority of children in the K-4th grade range. Students completed 139.5 cumulative hours of service. The volunteer manager gave a brief orientation to the center in class and students were required to complete a two-hour training session.

Gillis Center has both a day school and residential facility for youths, ages 5-18, with emotional/behavioral disorders who do not have the skills to function successfully in a public school setting. Students worked as tutors in the residential school or provided social mentoring during weekend activities for the residential boys. Four students were placed at this site. Students completed a total of 40 hours of service. The Senior Vice President for Campus-Based Services met with the students in a small group to give an overview of their programs. Students received an individual orientation at the start of their first visit.

The learning objectives specific to the reflection component of the written paper were that students would demonstrate application of both the idea of transforming lives and issues of social justice by connecting aspects of the service learning project to these concepts. A specific concern was how students would describe these concepts. Was the idea of transforming lives only personal so that they would only describe that their own lives were changed for the better? Or would they describe other ways that the concept of transforming lives could apply to the project? Would students focus only on socioeconomic differences when describing social justice issues? Or would students understand social justice in broader terms?

METHOD

Students completed a two-to-three paragraph pre-project paper that addressed what concerns and/or challenges they had about the project. They were not prompted to focus on issues relevant to transformation and social justice but merely asked to describe their concerns about the project. At the end of the semester, students completed a final paper for the course that contained: a short literature review relevant to their placement; a log of each visit with a brief description of each day's activities and ratings of their comfort level; a discussion applying course material to the project; and a reflection that addressed the most important thing they learned from the project, how the project addressed the idea of transforming lives, and how the project related to issues of social justice.

A content analysis (Berg, 2001; Frankfort-Nachmias & Nachmias, 2000) of the student papers was conducted to examine patterns in the student responses for their challenges and concerns, as well as their reflections on transforming lives and social justice. An inductive approach (Berg, 2001) was used to identify the thematic categories. One undergraduate research student and the author independently read all of the papers, noting words or phrases used by the students and grouped similar phrases into broader thematic categories. These categories were both mutually exclusive and exhaustive (Frankfort-Nachmias & Nachmias, 2000). There was 100% agreement between the two analysts in how the words and phrases were classified into each thematic category. The frequency of each thematic category was determined by computing the percentage of students who described aspects in each category (Frankfort-Nachmias & Nachmias, 2000). Because students had different experiences at the two sites, the findings are separated based on location (KCUYC vs. Gillis).

RESULTS

CHALLENGES/CONCERNS

Student responses regarding their challenges and concerns were grouped into four different thematic categories for each site. The number in parentheses represents the percent of students who mentioned that response.

KCUYC

1. Not enough time to build a relationship (62.5%). Because the students were going to be working at the site once a week for one to two hours for eight weeks, the majority of students thought that there would not be ample time to build a relationship that was crucial to be an effective mentor.
2. Discipline issues (50%). Many students mentioned concerns about their ability to handle any disciplinary issues that may arise, especially because they were not part of the staff at the facility.
3. Differences between child/self (43.75%). Many students worried that differences in age, race, and socioeconomic status between themselves and the children may hinder developing a positive relationship.
4. Teaching issues (37.5%). Some students were apprehensive about their ability to work with the children in a teaching situation because they had not yet taken many education courses that covered specific methods for teaching reading.

GILLIS

1. Concern over saying the wrong thing (50%). Given that some of the children at Gillis come from dysfunctional families and many have a history of abuse, students expressed their unease about the possibility of saying something "wrong" to a child with whom they were working. For example, many of the residential boys at Gillis have experienced multiple foster home placements and as one student noted, "What happens if I have a conversation with one of the boys and make reference to something like family or a parent in a positive context and he gets upset because his situation is very different?"
2. Out of comfort zone (50%). Some students explicitly mentioned that this project was going to take them out of their comfort zone because they had no previous experience working with children from this population.
3. Having enough patience (50%). One concern was that students felt that they might not have enough patience, especially knowing that these children often have difficulties with academic work.
4. Excited about opportunity (75%). Even with the trepidation that the students discussed in their concerns, the majority of them expressed excitement about the service project.

These categories identified by the students before they began the project reflect some ideas that may be related to skills necessary in transforming lives of others, such as the importance of building a relationship, teaching skills, and patience. The concerns also relate to issues of social justice, specifically the differences (age, race, socioeconomic status, abuse) mentioned by the students. Although students were not asked to specifically address these concepts in their challenges/concerns paper, some ideas were already present before they started the project.

COMFORT LEVEL RATINGS

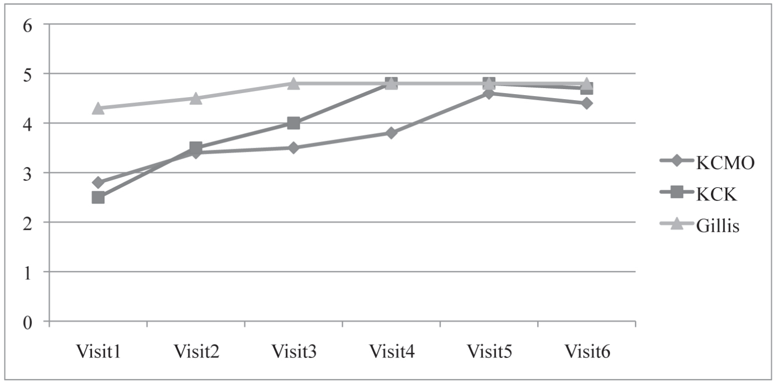
Students kept a log of the date of each visit, a brief description of what they did on that day, and rated each visit on their comfort level (1 = *extreme discomfort,* 5 = *high comfort*), with a reason for the rating.

KCUYC

Students at the MO and KS locations for KCUYC had different experiences based on the amount of structure and direction that was provided. The MO site had a new site coordinator, but the KS site had an established, structured routine. Students at the MO site reported a lot of chaos and felt like they were often given tasks that were not productive to mentoring or not effective uses of their time.

As shown in Figure 1, student ratings of their comfort level at the MO location generally increased, from M = 2.77 at visit 1 (*range* 1-5, SD = 1.24) to M = 4.36 at visit 6 (*range* 2-5, SD = 1.02). The same pattern was seen at the KS location, with M = 2.5 at visit 1 (*range* 2-4, SD = .58) to M = 4.67 at visit 6 (*range* 4-5, SD = .58). All students did a minimum of six visits at KCUYC.

Figure 1. Comfort Ratings by Project Site Location, Based on Each Visit



GILLIS

Student ratings of their comfort level at each visit increased slightly, from $M = 4.0$ at visit 1 to $M = 4.5$ at visit 2, and then remained at this level. Despite the concerns that they had before they started the project, students felt comfortable during their first visit and remained at a high level of comfort during the course of their time at Gillis. Students made six visits to Gillis.

For the entire sample, there was a significant increase in the comfort ratings from visit 1 to visit 3 (t (20) = -2.527, $p = .02$), suggesting that multiple visits to the same site over time may assist students in getting the maximum benefit from the service learning project because they are getting more comfortable with being at the site.

STUDENT REFLECTIONS

Of primary interest was whether students could connect their service learning project to the idea of transforming lives and issues of social justice. If they could make connections with specific examples, what kinds of descriptions would they provide? Rather than being prescriptive with specific prompts to address, students were given a generic statement to discuss how this service project related to those two concepts.

TRANSFORMING LIVES

For the words or phrases to be counted as belonging to one of the thematic categories for transforming lives, the phrasing had to describe aspects of the project that related to changing an individual's life for

the better. If a student just defined what the idea of transforming lives meant to them, it was not counted. The responses were grouped into two main categories for those students who were at KCUYC and three categories for those students who were at Gillis. The number in parentheses represents the percent of students who discussed each issue. Every student mentioned at least one aspect related to transforming lives. Direct quotes from papers are provided to illustrate how the students described the different concepts.

KCUYC. 1. What the program provided to children/youth (88%). The majority of students described specific aspects of what the KCUYC program was providing to the children/youth in terms of helping to transform the participants' lives. Examples of the types of program aspects are:

- Help with schoolwork, especially reading, that they might not get elsewhere.
- A stable, safe, welcoming environment.
- Positive role models, for both current and future behavior.

2. What Rockhurst University students received (41%). Many of the students described ways that they believed their lives were transformed by participating in the project. Most of these students discussed aspects such as:

- Development/application of teaching skills, such as helping to think of ways to maintain the child's focus, explaining ideas in a way so that they could really understand them, and using praise and constructive feedback. For example, one student noted that she "had always planned on majoring in secondary education because my previous work in a daycare turned me off of working with younger school-aged children. But this experience at KCUYC gave me a chance to practice my teaching skills with students of different ages than are the ones I plan to teach. This forced me to think of ways to teach children and not adolescents, and therefore required me to think of different ways to teach reading comprehension at a lower academic level."
- Realization that their attitude mattered. For example, one student wrote about noticing how her positive attitude was important for the children to feel that their accomplishments were meaningful, and the more positive responses the children received, the more the children realized the significance.
- Understanding little accomplishments were important to the children.

Although many students described ways that they thought they had been personally transformed by the experience, two students explicitly stated that because of the poor organization in how they were being used as mentors, they did not think that they had been transformed. However, these two students did describe ways in which they thought the community partner was working to help transform the lives of the children in the program.

Gillis. 1. What Rockhurst University students provided to Gillis children/youth (75%). Most of the students discussed ways in which they helped to transform the lives of the children/youth at Gillis. For example:

- Someone to be there to engage with the boys.
- Although some students talked about being there to engage with the boys, some students discussed specifically that it was engaging in common activities that, such as "spending time doing ordinary everyday stuff (playing with them, watching them, eating with them, talking with them, and watching television with them) was good enough for the boys. I did not have to do anything extraordinary in order to have an impact on their lives. I was letting the small moments and actions count as something positive." As another student explained, "The best way to make this small impact was by getting to know the boys, asking them questions about their life and being interested in what they had to say."
- Being positive role models.

2. How Rockhurst University students were personally transformed (100%). All of the students described ways in which they thought they had been transformed by their experience at Gillis, such as:

- Possible change of course of study; for example, one student is considering changing her major from education to social work.
- Understanding the importance of patience when a student does not understand.
- I felt like I mattered to the boys. For example, "Seeing their excitement when I returned for another visit helped me realize that my presence had an impact on a couple of the students." [The students at Gillis are slow to warm up to visitors and wary of strangers.]

3. How Gillis helped transform the lives of these children/youth (100%). All of the students discussed ways in which the partner was working to transform the lives of the children and youth it served by engaging in such things as:

- Creating structure, permanence, and security in the boys' lives.
- Long-term transformation by teaching necessary skills and keeping them away from negative influences.

SOCIAL JUSTICE

To be classified into a thematic category of application of social justice, the phrases had to describe aspects related to social inequities or discuss ways in which the injustices were being addressed at the service learning site. Phrases that merely defined social justice as the existence of social unfairness were not counted. Responses about social justice issues were divided into two categories for each site. The number in parentheses represents the percent of students who discussed each issue. Every student mentioned at least one aspect of social justice.

KCUYC. 1. How the program was attempting to address social justice issues, placing emphasis on support, success, and respect for each student (88%). Students discussed acknowledgement by the staff members of the hardships facing the children and their families and working with them to improve their situation, such as emphasizing the importance of education and providing nutritional snacks.

2. Students' observations of social justice issues, focusing on lack of resources, hardships of the families, and quality of school (82%). One student noted: "By giving my time to the KCUYC, I was participating in creating an equal opportunity for all students to succeed. The students that do not receive help outside of school are not at the same advantage as those students who do receive help. Because of my time spent doing the service learning project, those students who do not typically get help outside of school were given an equal opportunity." Another student explained, "The children I met during my weeks at the center come from a school and neighborhood where injustice reigns. They are denied a lot of the opportunities that other take for granted. Some do not have a teacher who believes in their abilities to learn. Some do not have parents committed to their children's health and education. Some do not even have their basic needs met every day. This was hard for me to grasp until I saw it in person."

Gillis. 1. Focus on how Gillis Center was addressing social justice, such as providing a safe and secure environment, giving boys a second chance, and recognizing that equality is not always achieved in the classroom (100%). Students described how they saw how the teachers are fighting to help the students learn despite the students' circumstances, and the passion the teachers bring to the education process.

2. Application of Jesuit education, specifically Kolvenbach's (former Superior General of the Jesuit Society) philosophy and how the teachers and staff used some of these ideas (75%). Kolvenbach (2000) discussed such ideas as "learn to …act for the rights of others, especially the disadvantaged," and recognize each person's dignity.

Remember that students were not given specific prompts about what to address in terms of social justice. Three of the students at Gillis explicitly tied the idea of social justice to principles of Jesuit education with examples. Four students (one at Gillis and three at KCUYC) made an explicit connection to the Education Department's conceptual framework, where teaching for social justice is a component. Although these students did not give specific examples of how the project reflected the conceptual framework, they did make specific reference to it in describing social justice in general.

ANONYMOUS SURVEY

On the last day of the course, 19 of the 21 students completed an anonymous survey where they rated several aspects of their service learning experience. The average score and standard deviation for each question based on service learning placement location is shown in Table 1. Questions 1-12 used a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). Students placed at the KS site of the Kansas City Urban Youth Center and at Gillis Center generally had favorable ratings of the project, indicating agreement that they made a worthwhile contribution to the community, believed that they learned something from the project that they would not have learned just from the textbook and classroom material, and that they have a better understanding of challenges facing these children/youth both at school and at home. The ratings for the MO site were lower, falling in the disagree to neutral range. Three of the 11 students at the MO site gave low ratings (all ones) to every question, which affected the average score. Only 18% of the students at the MO site indicated an interest in continuing at this site, compared to 100% at the KS site and 75% at Gillis Center.

Students at the MO site tended to be more negative about their experiences for several reasons. First, depending on which day of the week they worked, they may not have had as much one-on-one or small group interaction with the children because Fridays were often designated as "free" days and students reported that they did "a lot of standing around." Second, students reported that this site was characterized by general chaos and disorganization in that the adults in charge did not seem to communicate with one another about daily issues. Third, students reported that they felt that communication from the staff about what they were supposed to be doing was lacking. These

Table 1. Student Ratings Based on Service Learning Site

KCK KCUYC *M (SD)*	KCMO KCUYC *M (SD)*	Gillis *M (SD)*	**Survey Item**
5.00 (.00)	2.91 (1.58)	4.25 (.50)	1. Through this project, I felt I was contributing something worthwhile to the community.
4.75 (.50)	3.27 (1.10)	4.75 (.50)	2. Through this project, I learned something about at-risk school aged children or children with behavioral/emotional problems that I would not have learned through just lecture and reading my textbook.
4.25 (.50)	3.09 (1.14)	4.50 (.58)	3. This service learning project helped me to apply class/text material to actual people.
3.00 (1.15)	3.18 (1.40)	4.50 (1.00)	4. Through this project, I learned that I really liked working with at-risk or special needs children.
4.25 (.96)	3.36 (1.43)	4.50 (.58)	5. Through this project, I found that my comfort level of interacting with at-risk or special needs children increased (even though I might not want to work with individuals in this population).
4.50 (.58)	3.73 (1.27)	4.50 (.58)	6. Through this project, I have a better understanding of the challenges facing these children in school.
4.00 (.82)	3.09 (1.51)	4.50 (.58)	7. Through this project, I have a better understanding of the challenges facing these children at home.
5.00 (.00)	3.00 (1.55)	5.00 (.00)	8. I enjoyed participating in this project.
4.75 (.50)	3.54 (1.21)	5.00 (.00)	9. Even though I might not have enjoyed it, I'm glad that I participated in this project.
3.50 (1.00)	2.81 (1.17)	4.25 (.96)	10. Participation in this service learning project increased my interest in class material.
3.25 (1.50)	3.09 (1.04)	4.00 (.82)	11. Participation in this service learning project made me take more responsibility for my own learning.
4.00 (.82)	3.00 (1.25)	4.00 (.82)	12. Participation in this service learning project made me more aware of some of my own biases and prejudices related to at-risk or special needs children.
4.75 (.50)	3.36 (.92)	4.75 (.50)	For question 13, use the following scale: 5 = very interesting 4 = interesting 3 = neutral 2 = of little interest 1 = not at all interesting 13. Overall, I would rate this project
4/4	2/11	3/4	14. I would like to continue involvement with this service learning site. ("yes" responses/total responses)

comments on some of the difficulties that students had at this particular site reflect some of the service-learning "pathologies" articulated by Schwartzman (2010), most notably students feeling like they were sometimes engaging in marginalized activities. At this particular site, a few of the students admitted at the end of the semester that they did not take initiative to ask one of the supervisors to work with a child or to request tasks that were specific to the mentoring program. Only recently it was revealed that KCUYC partners with another organization at the MO site to run the program. This organization and KCUYC have different philosophies on working with children and discipline, which contributed to some of the issues that were raised by the students.

DISCUSSION

This project was a pilot study to examine whether students could apply the ideas of transforming lives and social justice in the context of a service learning project. This study had some methodological strengths as it utilized three different sites and multiple indicators of service learning effects, going beyond a reliance solely on student self-report data (Schwartzman & Henry, 2009). The research questions focused on how students described the aspects of transformation and social justice as related to the service learning project without being given specific prompts. Results from the content analysis indicated that a majority of the students described issues of transforming lives and some social inequalities that existed. In addition, some students were able to describe some immediate action components involved in social justice issues. That is, they reported on ways the community programs were working to alleviate some of the social inequities. The student descriptions are in line with the Jesuit conceptions of transformation and social justice.

Students discussed different aspects of the idea of transforming lives. The first aspect of transformation was personal. At both KCUYC and Gillis, many students described ways they believed they had been transformed by participating in the service learning project. From the anonymous ratings of the project, students at both the KS location of KCUYC and at Gillis thought that their service learning experience enhanced their knowledge and understanding of challenges faced by the individuals with whom they worked. Students at these two sites also thought that the project made them more aware of their own biases and prejudices related to these children and youth. Although these results are similar to those of Carrington and Selva (2010), these self-assertions of change and awareness are not necessarily indicators that transformation has occurred because personal transformation involves a long-term, fundamental perceptual or behavioral shift. The types of data collected and the short-term nature of the service learning project are not sufficient to measure transformation. Future studies on transformation should also examine behavioral outcomes using a longitudinal methodology. This will allow researchers to examine both short-term and long-term effects of the service learning project (Schwartzman & Henry, 2009).

The second kind of transformation discussed by the majority of students at both sites of KCUYC was the impact on the children and youth served, both by the students' role in the project and that of the community partner. The recognition of both kinds of transformation is an important learning outcome, especially because most of the research on transformation has focused on the transformational learning of

the college student (Carrington & Selva, 2010; Eyler & Giles, 1999; Kiely, 2005). Although some students may feel that the service learning experience did not lead to personal transformation, they still may be able to see how participating in the project has potential to transform those who are served by the community partner. The descriptions of the students' role and the role of the community partner suggest that the idea of transforming lives has multiple dimensions. Even if personal transformation does not occur, understanding the impact that the program has on the participants may be important for social justice action. Although personal transformation may be a goal of service learning, we need to recognize that transforming lives can take many forms.

Negative ratings by some students at one particular location were traceable to site management issues. Placement quality has been identified as a factor in service learning effectiveness (Eyler & Giles, 1999). Individuals who are designing service learning projects should pay careful attention to site issues. Although students were repeatedly asked in class how things were at each of the sites, students at the one site that was rated negatively did not indicate that there were big issues. It could be that those students who were having particular difficulties did not feel comfortable speaking up in front of the other classmates, especially if their perception was that the other students were not having any issues. One way to attempt to stave off potential problems is to have students complete anonymous, frequent comment cards describing specific issues that need to be addressed. By keeping the comments anonymous, students can be assured that they will not be singled out. It may also be important to remind students of the need to take initiative and ask questions of the site personnel. Site personnel may not be aware that the students were not given a task, especially at sites where a lot of clientele are served or students are working in different areas of the facilities.

The majority of students, regardless of whether they were at KCUYC or Gillis, not only described the types of social justice issues that they observed but also recognized how the organization was attempting to alleviate some of the inequities. This acknowledgement of the role that the community partner plays in the lives of these children/youth and their families is noteworthy because many of the students mentioned in their final paper that before the project began they had not thought of what the program meant in terms of the impact it has on the clients' lives. Most of the observed social justice issues mentioned at KCUYC revolved around socioeconomic status, but surprisingly most students did not specifically mention socioeconomic status. Rather, they discussed the effects that socioeconomic status has on creating social justice issues, such as poor quality of schools and lack of resources.

Although the majority of students described the social injustices at their community site and how the site was attempting to alleviate these issues, a few students ($n = 4$) went beyond the descriptions of inequities to discuss possible reasons for why they existed and why they persisted. For example, relative to poverty, some students did address immediate contexts such as lack of resources at the family level (e.g., minimal education of the parents, poorly paying jobs with lack of opportunities for advancement) and lack of opportunities in the neighborhood. Other students ($n = 3$) also described issues at a systemic level such as lack of access to quality education, how the state and federal governments allocate resources, and issues of discrimination. These descriptions suggest that these students may be developing a deeper awareness that social justice issues go beyond the immediate community site. However, because no specific reflection prompts or other types of measures were used, it is unknown whether this ability was limited to a few students. Therefore, to connect educational theory and practice of service learning with social justice agendas, more specific pedagogical methods need to be employed and systematically researched.

The next step would be to clearly focus the service learning project with the goal of examining whether students can address these larger systemic problems. This could be done in several ways, either separately or in conjunction with each other. For example, class discussions around systemic issues, an assignment that asks students to investigate the social justice issue beyond the immediate community site to larger levels (local, state, and/or federal), or carefully designed reflection questions to address systemic issues could be used. For instance, in the case of poverty, students could be asked to research how widespread the issue is at local, state, and national levels and identify possible reasons at each level. In addition, students could be asked to research what is currently being done at any of these levels to address some of these inequities.

Being able to articulate the systemic nature of these social inequalities, however, does not fully address the issues of transformation and social justice from a Jesuit perspective. In both concepts, action is called for to correct the structures that continue the need for assistance and to transform the world. A few of the students ($n = 3$) did begin to address the action piece by indicating that they believe that merely recognizing the inequities is not enough, but rather some kind of action to address the issues is needed. As one student described, "Social justice is more than just helping out, it is about becoming aware of the injustices that surround us and trying our best to solve those issues. Social justice does not have to be some huge action but merely is actually trying to make a difference in the world." Again, because students were not specifically directed to discuss action as a component, it is hard to determine whether they have not made the leap to a full awareness of the relationship between personal transformation, social inequities, and action, or if they have but did not articulate it in the assignment.

Knowing that action is important does not necessarily mean that students will actually act. To complete the transformation/social justice cycle, future research needs to track students' action and the types of actions that are involved. For example, once the service learning project is completed for the course, do students continue to serve at the community partner? Or do students get involved in other ways, such as attempting to act at the larger community, state, or federal levels? Follow-up data on students' behavior would be important to investigate.

Although the study used multiple indicators to examine the effect of the service learning project, a critical area that is frequently lacking in service-learning research is data on the views of the community partner (Schwartzman & Henry, 2009). In respect to the issues of transformation, future research needs to examine how the community service providers and both the children/youth and parents are identifying transformation. A mismatch between the parties could impact transformation. It could also affect future action behavior on the part of the student.

Results of the present study indicate that students were able to apply the concepts of transforming lives and social justice to their service project in multiple ways, demonstrating that this type of reflection component can be used to enhance students' ability to explicitly connect with the mission of the university. Providing experiences that connect the curriculum with the idea of transforming lives and social justice may be a way to deepen students' understanding of the university's mission to prepare them to act in ways that promote action within the larger community.

CONCLUSION

Ideally, the outcome of a service learning project would be that students go from awareness and understanding of social justice issues, including knowledge of the systemic nature of social injustices, to action. In the discussion section, some suggestions for furthering service learning research along these lines were offered. These suggestions apply to disciplines other than teaching and to institutions that are not faith-based. What is important is to pick a project that involves a social justice issue that connects with the course content and provides enough discrepancy between students and service clientele to challenge students by taking them out of their comfort zone in moderate ways. It may be important to monitor the students' comfort zones and make modifications. For example, in an Adult Development and Aging psychology course, students are paired with a resident at a local nursing home. Sometimes a student is paired with a resident who is not interested in engaging with the student. In that case, the student's comfort level is so low that there is too much discrepancy and the project will be less meaningful and beneficial to the student. At this point, a change in the resident pairing is in order. Also, the comfort level changes reported in the current study point to the importance of having a longer duration service project. A service experience lasting for several weeks or months rather than a one-time project is going to be more beneficial for stimulating transformation and allowing students to become aware of social inequities. A benefit to using KCUYC is that the programs are located in the apartment complexes where these children live, so students got to see firsthand some daily aspects of poverty affecting these children that they might not have otherwise been aware of if the programs were located in a more neutral location, such as a church.

Although this project is framed within the Jesuit philosophy, this study can be generalized to service learning projects at non-faith-based institutions. The current research was truly a pilot study illustrating how personal and social consciousness can be stimulated through service learning. The issues of transformation and social justices were mechanisms by which students discussed these issues of consciousness. There are many ways to stimulate social consciousness. Some suggestions are to have class discussions and/or targeted critical reflection questions that ask students to examine what their involvement in the project means to them personally and to the community partner, and what the program means to the participants and to the community. Having students respond to such questions at multiple points during the project may assist them in seeing how their views have changed. Involving the community partners and/or the clientele in such discussions can raise different issues that students may not have considered. This service experience required students to write about their pre-project concerns and challenges. Having students re-examine these during the project and describe why an issue is or is not still a concern may make issues of personal and social consciousness more salient. Another suggestion is to use directed readings that are specific to the service learning project and have students write short papers that summarize how the reading relates to the project.

The findings of the current study suggest that within the context of the service learning project, a relational transformation may occur. The college students and the children/youth engage in a mutual discovery of their capabilities as both parties extend the boundaries of their perceived limits. For example, one perceived limit is the comfort zone. In the current study, by the end of the project most of the students reported feeling more comfortable interacting with the children and youth and being at the site. Other researchers can use comfort rating data to track

changes over the course of the project. Coupled with descriptions of the session, these ratings can assist in understanding how the relationship between students and clientele evolves. For example, during one visit at Gillis, the students were outside playing basketball with a group of boys when a scuffle broke out among a couple of them. The students' visit was cut short as all the boys were sent back to their cottage. Both students rated the visit as a 5 (*high comfort*). That incident occurred toward the second half of the project. The students had ascertained during the course of their earlier visits that they could handle such an incident without it affecting how they felt being around the boys. The boys discovered that even though there was a behavioral outburst, the students felt comfortable enough being there and would be back.

The types of benefits that students reported receiving from the service learning experience reported in the present study, such as teaching skills, knowledge that attitude is meaningful, and the importance of small accomplishments for these children and youth, are valuable skills and information that they will be able to utilize as most move forward in their careers of working with children and youth. The types of occupations that these students want to pursue, such as educator, school psychologist, and counselor, are professions in which an understanding of the concepts of transforming lives and social justice are crucial. Providing experiences that connect the curriculum with the ideas of transformation and social justice may be a way to deepen students' understanding in order to prepare them to act in ways that promote action within the larger community.

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Shaping Perceptions: Integrating Community Cultural Wealth Theory into Teacher Education

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Teacher candidates need to be prepared to work effectively with rising numbers of diverse student populations, and yet classroom interventions do not always impact perceptions and attitudes in the field. This study explored the initial steps of integrating Critical Race Theory and community cultural wealth (CCW) theory (Yosso, 2005, 2006) into the teacher education curriculum. The study asked if the candidates applied their knowledge of CCW in reflecting on their face-to-face interactions as hosts for Native American students in a diversity workshop. It further asked which types of (CCW) capital the candidates identified most frequently as they reflected on their experiences with Native American students. Results indicated that candidates can identify CCW in the field, with some types of capital more frequently identified than others. Because the potential exists for knowledge to shape perceptions (Kolb, 1984), the study concludes that CCW could be a valuable addition in teacher education curriculum. A more intensive focus on CCW and the addition of pre-contact activities, such as the sharing of counterstories (Yosso, 2006), may also promote knowledge translating into perception and attitudes.

The 2010 U.S. Census affirmed projected demographic shifts: American classrooms will increasingly include children and youth from diverse populations, resulting in a decrease in the proportion of non-Hispanic White students (U.S. Census Bureau, 2010). Specifically, from 1986 to 2008 the percentages of White students decreased from 70 to 55 percent, while the overall percentage of Hispanic students rose

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from 10 to 21 percent (Snyder, 2011). Changes in child-bearing rates within subgroups and recent immigration trends have further contributed toward dramatic populations shifts (Johnson & Lichter, 2010). At the same time, leading educators and policymakers note the challenge of working with diverse populations and the importance of closing the achievement gaps often associated with them (Banks et al., 2005).

For several decades, schools of education and national accreditation agencies have recognized the need to train candidates in the "knowledge, skills, and professional dispositions necessary to help all students learn" (NCATE, 2008, p. 34). These groups also agree that all educators, even those who are themselves from diverse backgrounds, must acquire new perspectives to effectively instruct students across broad socioeconomic and ethnic/racial groups (Howard, 2007).

TEACHER EDUCATION CONTEXT

Many candidates, particularly those from a relatively homogeneous White, middle-class background, may have limited exposure to the diverse populations they will be called upon to teach. At our institution, for example, the student body is 92% White, while less than 1% is Native American, even though the state population is approximately 10% Native American (Lee, 2007).

This demographic pattern of predominately Caucasian teachers generally holds true across the country. According to the National Center for Education Statistics Schools and Staffing Survey 2010 data, 83% of elementary and secondary teachers are White; 7% are Black and 7% are Hispanic (Snyder, 2011). One concern expressed in the literature is that White teachers with limited experiences with diverse student populations might have lower expectations for low-income and minority learners (Bransford, Derry, Berliner, & Hammersness, 2005).

In *We Can't Teach What We Don't Know: White Teachers, Multiracial Schools*, Howard (1999) explored how lack of exposure to other cultures may result in fear. Our reaction to fear, he theorized, determines whether or not we grow in multicultural understanding or remain socially isolated. Howard emphasized that teacher preparation programs must look for ways to bring candidates out of isolation by developing in them the competencies necessary to "become partners in the dance of diversity" (1999, p. 10).

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TEACHER PERSPECTIVES THAT LIMIT CLASSROOM EFFECTIVENESS

One of these critical competencies is a professional expectation that all students can succeed. Villegas and Lucas (2007) have emphasized the importance of believing that all students can learn and deserve equal access to educational opportunities. To ensure that all students have such equal access, reform is needed. Ullucci argued, however, that because educational beliefs and teacher perspectives "form the bedrock on which we build educational policies and practice" (2007, p. 1), school-wide reform is significantly hampered when educators hold negative perceptions. If candidates enter the profession with foregone conclusions about student abilities, they expect less, see less, and get less. From this mindset emerges a cultural deficit model, characterized by descriptions of people and their cultural values as "pathological, [and] deficient in the cognitive, emotional, linguistic, and spiritual resources" (Dudley-Marling, 2006, p. 1). The cultural deficit perspective attaches labels and identifies weaknesses in students' backgrounds, suggesting that "children of color [are] victims of pathological lifestyles that [hinder] their ability to benefit from schooling" (Ladson-Billings, 2006, p. 4).

Furthermore, when educational systems place the blame for low achievement in their students' homes and cultures, system-wide practices and policies contributing to the problem are often overlooked (Ullucci, 2007). Shaping teacher beliefs at the pre-service level remains a significant challenge in combating such oppressive perspectives and systems (Ullucci, 2007). At the same time, working toward this reform is a significant goal for teacher preparation programs to embrace, particularly because once teachers are placed within a school, their perspectives may become influenced by the system, making it more difficult for them to change their perceptions.

CRITICAL RACE THEORY IN TEACHER EDUCATION CONTEXT

Critical approaches in research look beyond examining and understanding to include a larger goal of reforming and improving (Patton, 2002). Bell, Crenshaw and Delgado popularized the Critical Race Theory (CRT) framework in the 1970s to identify systemic racism (see Crenshaw, Gotanda, Peller, & Thomas, 1995 for a complete background on the development of this theory). Subsequently, it has been utilized as a critique in many disciplines, including teacher education (Kohli, 2008).

As a teacher educator who promotes multicultural education, Vavrus (2002) has suggested that adding knowledge of CRT to the teacher education curriculum could foster increased cross-cultural competencies. Yosso (2005, 2006) also affirmed CRT as a basis for examining the ways that race impacts schools. Two central tenets of CRT are particularly relevant for teacher education: 1) CRT challenges "the traditional claims of the educational system and its institutions to objectivity [and] meritocracy" (Solorzano, 1998, p. 123);[1] and 2) CRT places a value on the experiences and applied knowledge of minority cultures (Solorzano, 1998), examining the lives of real people to understand how actual events have shaped their understandings and status. CRT asks educators to consider what important experiences minority students bring to school and how those experiences might be viewed as resources increasing the students' likelihood of success.

Both CRT and applied learning place experiences at the center of the learning process. Although developmental theorists such as Piaget have focused on the formal learning process as occurring in stages prior to adulthood (Kolb, 1984), CRT has emphasized that lived experiences throughout one's entire life can bring insight and knowledge to learning (Solorzano, 1998). Schwartzman and Henry (2009) likewise note "the true test of knowledge lies in its connection to lived experience" (p. 6).

COMMUNITY CULTURAL WEALTH MODEL

Yosso (2005) has applied CRT's approach of valuing student experiences to Chicano/a students and identified specific categories of what she terms "community cultural wealth" (CCW). These CCW categories identify an "array of cultural knowledge, skills, abilities and contacts possessed by socially marginalized groups that often go unrecognized and unacknowledged" (Yosso, 2005, p. 69). CCW, thus, offers concrete alternatives to the cultural deficit perspective and serves as a means to challenge the social injustice that Yosso believes is endemic in schools. CCW guides teachers to acknowledge the strength of culturally-related attributes, such as bilingual homes and large extended families, instead of seeing those qualities as barriers to success (Yosso, 2005, 2006).

The CCW model defines six forms of cultural "capital" (Yosso, 2005), which often overlap and intertwine:

1. *Aspirational Capital:* the resilient nature of people who hold on to their "hopes and dreams for the future, even in the face of real and perceived barriers" (Yosso, 2005, p. 77).

[1] Meritocracy is the belief that all students can be successful if they only work hard enough. Gladwell (2008) points out that this American belief ignores the advantages of money, family/cultural background, social status, and other factors outside an individual's control. Gladwell labels meritocracy as a myth.

2. *Linguistic Capital:* the "skills attained through communication experiences in more than one language and/or style" (Yosso, 2005, p. 78), including communication through musical and visual arts.
3. *Familial Capital:* the ways that "familia (kin) …carry a sense of community history, memory" (Yosso, 2005, p. 79).
4. *Social Capital:* the "networks of people and community resources…both instrumental and emotional support to navigate through society's institutions" (Yosso, 2005, p. 79), extending the concept of familial capital into a broader and more extensive system of relationships to provide information and reinforce confidence.
5. *Navigational Capital:* "skills maneuvering through social institutions" (Yosso, 2005 p. 80) or the ability to work and even thrive in hostile and unresponsive environments.
6. *Resistant Capital:* "those knowledges and skills fostered through oppositional behavior that challenges inequality" (Yosso, 2005, p. 80) or asserting oneself in the face of repression.

INTEGRATION OF COMMUNITY CULTURAL WEALTH INTO TEACHER EDUCATION CURRICULUM

The basic principle of identifying strengths in other cultures as a foundation for building positive expectations is well-grounded in cross-cultural theory. "Both learning and development are deeply embedded in cultural contexts.... Teachers must understand and appreciate the variety of ways children's experiences can differ, and be able to see and build upon cultural strengths if they are to help all students succeed" (Horowitz, Darling-Hammond, & Bransford, 2005, p. 93). However, little research has been conducted that investigates the integration of CCW in teacher candidates' (pre-service teachers) experiences working with Native American populations.

METHOD

This study describes the initial steps taken to integrate CCW theory into a required teacher education diversity course as it partnered in a service-learning project with a federally operated Native American boarding high school, the Flandreau Indian School. This partnership operates within the Flandreau Indian Success Academy (FISA), a cross-cultural program that encourages the university at large to adopt the CCW perspective of "respect for the families, communities and tribes from which our students come" (Lee, 2007, p. 106).[2] Within the FISA,

[2] For a more thorough explanation of the philosophy and history of the Flandreau Indian Success Academy (FISA), now in its 11th year of implementation, see Lee (2007).

teacher education instructors created a workshop specifically for the College of Education and Human Sciences.

Teacher education faculty recognized that candidates are not immune from believing the stereotypes prevalent in today's society about Native Americans as either desperately poor or newly rich from casino profits (Doble & Yarrow, 2007). To achieve the two project goals of breaking these stereotypes and of replacing them with an asset-based perspective, instructors added lessons on CCW and then assessed the candidates' application of the content during a service-learning experience—hosting an FISA workshop.

During the FISA workshop series, freshmen from a Native American high school came to SDSU seven times to experience higher education opportunities. Each college in the university prepared its own three-hour workshop, with students rotating through in small groups. The workshop experience described in this study was hosted by the College of Education and Human Sciences with candidates leading the following activities: a ten-minute icebreaker in small groups; an introduction to Multiple Intelligences Theory (Gardner, 1999); an online assessment of multiple intelligences (http://www.bgfl.org/), followed by a one-to-one discussion of the implications for candidates and students; and a creative project where students decorated quilt squares to reflect their personalities. Each FISA workshop concluded with a dinner, which gave additional time for interaction.

Two research questions guided this study:

1. Do candidates apply their knowledge of CCW in reflecting on their face-to-face interactions as hosts for the FISA students in the FISA workshop?
2. Which types of community cultural wealth (CCW) capital do candidates identify most frequently as they reflect on their FISA experiences with Native American students?

Prior to hosting the FISA workshop, candidates in the education course on Human Relations received the following uniform curricular materials and experiences:

1. A reading and discussion of "Turning the Notion of 'Community' on Its Head: SDSU-Flandreau Indian School Success Academy" (Lee, 2007) as background for serving as hosts in the FISA workshop. This article also briefly explained the CCW concept and challenged the deficit model of using labels to depict diverse students.
2. A presentation on FISA by the SDSU coordinator.
3. Instructions and practice on the FISA Workshop components.
4. A brief lecture on CCW theory introducing the six forms of capital identified by Yosso (2005) along with examples.

A class activity following the lecture served as a formative assessment, indicating to the instructor that the candidates could identify and explain the six categories of capital.

For a summative course assessment, instructors used the following three reflection prompts related to the course content goals of applying their knowledge to the service-learning setting, as suggested by Ash and Clayton (2009).

1. Describe what the FISA experience was like for you. Think of the roles you played in all components of the workshop. Which role felt the most successful from your perspective? Why?
2. What did you discover about yourself as an "intentionally inviting" teacher (Purkey & Novak, 1996)?
3. What did you discover about working with the FISA students?

Thirty-eight candidates constructed their responses during the last week of class to reflect their FISA experiences and, as such, the reflections were identified as data "indicative of the phenomena of interest" (Krippendorff, 1980, p. 170). Candidates in this course signed informed consent statements that indicated their understanding that their written submissions could be used for research and that assured them of confidentiality related to their participation. The responses were collected by a graduate student to ensure anonymity and to encourage the construction of honest responses. Content analysis was selected as the most appropriate method to use because the responses provided insight into candidates' perceptions of Native American students, thus enabling researchers to draw inferences (Krippendorff, 1980).

RESULTS AND ANALYSIS

Initially, six categories of CCW were used as the basis for coding; however, the two researchers (the diversity course instructor and an English course instructor) decided to collapse the Social Capital and Familial Capital categories because of the difficulty of defining these as mutually exclusive within this population. Research on educational questions are often complex and require interpretation and discovery as methods of inquiry (Cochran-Smith, 2006).

Each constructed response was coded independently by the researchers by identifying themes that matched the CCW capital categories, as defined earlier (Yosso, 2005) and as revised above. The researchers initially coded 27 out of 38 responses (71%) in agreement, with agreement defined as identifying the same CCW categories in each response. Responses with codings outside the range of agreement were re-read, discussed by the two researchers, and, based on their discussion, a consensus was reached for all responses. The coded responses were tabulated by category, and the category totals were converted to percentages of the total responses.

The first research question asked if candidates applied knowledge of CCW in reflecting on their face-to-face interactions with the students. Twenty-seven candidates' responses (59%) exemplified an ability to apply knowledge of CCW during the service-learning activity; eleven candidates' responses (41%) did not show this ability. Only one candidate specifically mentioned the CCW theory in the response; however, the constructed response prompts intentionally elicited a broad range of ideas to evaluate the transfer of classroom knowledge to experience. Overall, the results indicate that a more intensive focus is needed on CCW theory if it is to be applied successfully in the field.

The second research question asked which types of capital candidates tended to identify in their reflections. Table 1 illustrates the percent of candidates who identified a certain CCW category in their constructed responses.

CATEGORIES OF CONTENT

Candidates most frequently identified Social/Familial Capital and Aspirational Capital in their responses as they reflected on their FISA experiences. Conversations about family and friends were apparently frequent topics during the workshop, which would account for the high percentage of codes in the Social/Familial category. Evidence of close friendships among the FISA students was noted in this response: "The two girls we had were good friends so that also helped with the awkwardness."

In considering combining the categories of Social Capital and Familial Capital, the instructors noted that Native Americans often have broad definitions of who is considered family, and extended family relationships in vertical and horizontal directions can blur the lines between family circles and social circles (Light & Martin, 1996). The English instructor who had also previously worked with the FISA students noted this in the language they used to describe family members. For example, one student told her, "My mother is my grandmother," and in another instance, a student referred to his friend (who was also in the class) as "Brother" in an essay. When the instructor suggested changing the term so as to not confuse his readers, both students protested. A Lakota saying that illustrates this global perspective of claiming relationship with all people and, in fact, all living things is *Mitakuye Oyasin* or "All My Relatives." The decision to collapse the social and familial capital categories aligned with what the instructors perceived as Native American cultural values and perspectives.

Responses were coded as Aspirational Capital in reference to conversations about future plans, such as: "She was very interested in a science field…and hoped to come back again." In the context of the FISA workshop, it is likely that school and careers were logical topics of conversation between FISA students and candidates, which could explain the higher frequencies of this category.

Table 1. Candidates' Identification of CCW Resources after Service-Learning Experience

Participants	Candidates Identifying Social and Familial Capital	Candidates Identifying Aspirational Capital	Candidates Identifying Navigational Capital	Candidates Identifying Linguistic Capital	Candidates Identifying Resistant Capital
n = 38	15 39%	12 32%	5 13%	2 5%	0

Navigational Capital was identified when candidates commented that FISA students were able to overcome their initial shyness and became engaged in the workshop activities, for example, "by the time we started working on the crafts,…they felt free and were able to speak their minds."

Linguistic Capital includes abilities in music and visual arts. Several candidates were surprised by displays of FISA artistry during the creative activity, as exemplified by this response: "What she [FISA student] drew in thirty minutes blew me away." However, few responses indicated an awareness of this resource.

Although the instructors did not identify any response as having made thematic connections to Resistant Capital, the instructors noted that responses included references to non-compliant behavior from the FISA students (i.e., "he quickly found other websites and ignored my request to focus;" "she put her head down during the presentation"). However, the candidates did not appear to perceive the negative behavior through the lens of Resistant Capital.

Overall, the results indicate that a more intensive focus is needed on CCW theory if it is to be applied successfully in the field. In addition, other themes that emerged through the researchers' discussions indicated additional pre-workshop interventions might be beneficial.

EMERGENT THEMES IN THE CONSTRUCTED RESPONSES

During the researchers' discussions about the content of the constructed responses, several other themes of interest to teacher educators emerged. The following themes were perceived to be most evident and significant for future study.

EMOTIONAL RESPONSES

More than half of the candidates reported experiencing various levels of anxiety about the FISA workshop as they anticipated their role as hosts and as they engaged with FISA students. Their comments ranged from feeling "out of my element a little bit" to "nervous to the point of jitters." Howard (1999) points out the significance of these reactions: "Whether we deepen our awareness and continue to grow through such experience or merely shrink back into the safety of isolation, is determined by our reaction to the inevitable fear of stepping outside the boundary of ignorance" (p. 12). Guiding candidates through this emotional transition will most likely require more intensive intervention.

PERCEPTIONS OF SUCCESS

Several candidates reflected upon their perceived success, most notably equating success with interpersonal connections they made with the FISA students. For example, "we feel as though we succeeded when we see a smile or even when we see someone opening up." Another wrote, "I felt the classroom went very well when the girls were making their postcard things. By that time everyone had opened up to one another and there was a lot of visiting happening as opposed to awkward silence." A third candidate reported that the "most successful" part was when he was able to "invest and get to know a student."

The candidates also reported success when the FISA students were fully engaged with the workshop activities and reported a corresponding lack of success when the FISA students "didn't seem to want to be involved." One candidate, for example, reported a lack of success when she "didn't feel [her] student was doing what she should have been doing."

Pratt (2008) argued, however, that such self-reports of success within what she calls "a contact zone" should be questioned. She defined contact zone as "social spaces where cultures meet, clash, and grapple with each other, often in contexts of highly asymmetrical relations of power" (p. 501)—which arguably was the case with the FISA, where mostly White candidates met (on their turf) with Native American high school students.

PERCEPTIONS OF LACK OF SUCCESS

Several responders noted other instances in which the FISA students did not respond as expected or desired. For example, they reported instances of FISA students "joking around," "going on Facebook during computer time," and "having a bit of an attitude." Pratt (2008), however, noted that when social situations are "described in terms of orderliness, games, moves, or scripts, usually only legitimate moves are named as part of the system, where legitimacy is defined from the point of view of the party in authority" (p. 508). In other words, when the FISA students did not do what was expected, when they did not follow the game or script, the candidates did not count it towards success.

In discussing the responses, however, the instructors wondered if some of the "illegitimate" moves on the part of FISA students might, in fact, be unrecognized Resistant Capital. For example, one candidate reported that a FISA student called a drawing activity "stupid," then proceeded to write the word *DEATH* on his paper. Another FISA student drew an elaborate dragon which was swearing. Several candidates reported other behavior on the part of FISA students, behavior which the candidates considered rude and troubling. Might these behaviors, in fact, have been evidence of Resistant Capital? Pratt (2008) asked, "What is the place of unsolicited oppositional discourse...? Are teachers supposed to feel that their teaching has been most successful when they have eliminated such things and unified the social world, probably in their own image?" (p. 509)

Another example of possible misinterpretation is the number of candidates who expressed frustration at perceived lack of attention. For example, several responses noted that FISA students put their heads on their desks. The researchers wondered, however, if such action, which again does not fall within the imagined ideal classroom behavior, might indicate close and attentive listening—the opposite of how candidates perceived it. Might not cultures with strong oral traditions also foster strong listening skills, and might that listening be perceived differently by those from a culturally distinct background?

CHANGING PERCEPTIONS AND ATTITUDES

Finally, several responses indicated disconfirmed expectations about the FISA students and the experience in general, demonstrating a changed perception in the candidate. One respondent wrote, "I misjudged them all. My thoughts were that these students are mean, students who do drugs, and that they never listen. That was me being ignorance [sic] because what I came to find out is that they are just students who need a little help or push to get along." Another particularly self-aware candidate wrote, "I learned...that I am not as openly inviting as I wish I could be."

LIMITATIONS

The use of content analysis as a research methodology limits the findings from this study in several ways. The researchers made inferences based on their interpretations of candidate responses to determine perceptions and attitudes towards FISA students; however, "inferences never yield absolute certainties" (Krippendorff, 1980, p. 99).

The researchers used an established theory, Yosso's (2005) community cultural wealth (CCW) theory, as the basis for coding categories, and "established theories relating data to their context are the most unequivocal sources of certainty for content analysis" (Krippendorff, 1980, p. 103). However, CCW was developed in the context of Hispanic experiences (Yosso, 2006); although there may be similarities between the Hispanic and Native American cultures, the validity of CCW has not yet been tested in a Native American content.

Although the constructed responses that served as the data for this study were collected in an anonymous way, one of the researchers was also a course instructor. Her knowledge and personal observations of the candidates may have introduced some evaluator bias into the findings. The second researcher had no knowledge of the candidates.

Although candidates were assured that their responses would not be graded for content, some responses may have been written with the instructor as an audience in mind. This may have influenced the perspectives the candidates presented.

The scope of the three-hour FISA workshop limited the ability of candidates to more completely know the FISA students, and thus limited the candidates' amount of information on which they based their responses.

Finally, the assessment of the integration of CCW into the teacher education program relied heavily on candidate self-reporting, which "also invites systematic bias" (Schwartzman & Henry, 2009, p. 10). Because candidates likely know what answers the instructors want, and because the candidates' positive reports will also affirm their personal growth as future teachers, exaggerated responses were possible.

IMPLICATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

Yosso (2006, p. 89) concludes her book *Critical Race Counterstories along the Chicano/Chicana Educational Pipeline* with this haunting question: "Can education—rooted in a sense of community responsibility and with a goal of racial and social justice—transform society?" This study explored the use of an intervention to shape candidates' perceptions and attitudes by including Critical Race Theory and community cultural wealth (CCW) theory in a required diversity course. Yosso's categories appeared appropriate for use with Native American students with the possible exception of two forms of capital. The researchers found that distinguishing between Social Capital and Familial Capital in candidates' responses was difficult because some Native American cultures, such as Lakota, embrace a global perspective of relationship.

Formative assessments indicated that candidates were able to identify different cultural capitals. However, in the summative assessment of this knowledge as applied in the FISA, 59% of the candidates included elements of CCW capital in their reflective responses describing the students while 41% of the candidates did not. The results indicate that a more intensive classroom and field focus on CCW theory is required. Some candidates' responses also suggested that more pre-workshop activities to acquaint the two populations with each other might be beneficial. Several candidates noted that both they and the FISA students felt "uneasy" or "awkward" and needed time to "warm-up" to each other.

In addition to Yosso's categories of CCW, the instructors are interested in the way she distinguishes between "majoritarian" and "counter-stories." Both recount the experiences and perspectives of individuals. Majoritarian stories are told by those with racial and social privilege, but counterstories are told by socially marginalized people. Pratt (2008) also defined "auto-ethnographic texts" as those which "people undertake to describe themselves in ways that engage with representations others have made of them" (p. 501).

Perhaps one pre-workshop activity might be for all members of the two populations to create and share narratives about their own lives, so that the "warm-up" period of the workshop might be more quickly navigated. Digital Storytelling[3] might be one form of narrative that the students could use to become more familiar with each other before meeting. *Wiconi Waste: Education*, an existing social networking site, could provide the platform for sharing the stories. This private social networking site was developed as a communication link between the two service-learning partners, FISA and SDSU teacher education students.

Another useful addition to the applied learning experience might be to develop Pratt's (2008) suggestion for "ground rules for communication across lines of difference and hierarchy that go beyond politeness but maintain mutual respect" (p. 511) as a way to enhance cross-cultural communication skills.

[3] One instructor has been trained by the Center for Digital Storytelling (CDS; www.storycenter.org) to help students create these short first-person mixed-media narratives. CDS encourages the use of these stories as ways to "enable learning, build community, and inspire justice," goals shared by the collaboration between FISA and SDSU.

CONCLUSION

Teacher educators know that candidates need significant experiences to learn about and to interact with diverse students, especially in light of current demographic trends with the school-age population. However, experiences have the potential to move people in different directions; this means that each classroom experience must be evaluated on "the ground of what it moves toward and into" (Dewey, 1938, p. 38). Instructors should look for evidence that their course curriculum provides valuable learning opportunities that enhance and broaden candidates' perspectives and that such learning connects classroom theory with field experiences (Ash & Clayton, 2009). If candidates can be taught to view their future students through the lens of an asset-based perspective such as CCW, candidates might reject the stereotypical views about diverse students.

This study showed that over half of the candidates were able to access their knowledge of CCW capital as they reflected on their interactions with Native American students, but some forms of capital were apparently more identifiable than others within the context of this study. Further investigation is needed to determine what potential exists for shaping future teachers' attitudes and perceptions of Native American students through the integration of CCW theory into the teacher education curriculum.

Utilizing a curriculum that enables candidates to identify the strengths of diverse cultures might also enable future teachers to create more culturally relevant lessons. Identifying and valuing cultural capital might allow candidates to gain insight into their own students, which also allows pre-service teachers to make more meaningful connections. By learning "important community strengths" (Noel, 2010) or identifying "a community's funds of knowledge" (Ladson-Billings, 2006), candidates develop an especially vital cultural competency: the ability to view their future students in a positive light, as described in this response: "I saw that many of them wanted to achieve more than just the simplicity of life; they wanted to become something more. The passion for education." Indeed, for any service in which the recipient is lower in the power hierarchy than the provider, a clearer understanding of the strengths of the recipient's community network will serve to balance the relationship and enhance the significance of the learning experience.

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