Another Look at High-Impact Practices in Teacher Education: Linking Practices with Engagement

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High-Impact Practices (HIPs), as adopted by the American Association of Colleges and Universities (AAC&U), are teaching and learning practices in higher education that promote student engagement and learning as measured on the National Survey of Student Engagement (NSSE). This study replicated a previous study conducted by the authors exploring the extent to which prior findings on the relationship between HIPs and student engagement could be confirmed with a different sample of students and faculty in a teacher preparation program. The current study further sought to understand the extent to which faculty members' design of activities related to HIPs engaged students in the manner they intended. This mixed methods study with six faculty and 134 students, employing a modified version of the NSSE survey and faculty and student focus groups, confirmed earlier findings on ways that HIPs promote student engagement and learning outcomes as reported by students. While some discrepancies between faculty's design of activities and their reported effects on engagement were noted, most of the activities employed by faculty promoted engagement as intended.

The Scholarship of Teaching and Learning (SoTL) can be described as the systematic inquiry into ways students learn and the public dissemination of those findings to improve student learning. Because of the broad nature of this concept, there is considerable diversity in the number of activities that may be included under this label. According to Hutchings et al. (2011), SoTL involves "a set of practices that engages teachers in looking closely and critically at student learning in order to improve their own courses and programs and to share insights with other educators who can evaluate and build on their efforts" (p. 1).

Included in this broad set of activities is the investigation of teaching practices that can facilitate student engagement and improve learning outcomes. Kuh et al. (2015) argue that if colleges and universities are going to take steps to improve student learning, they need to move from a culture of outcomes assessment to the one that emphasizes using the *results* of assessment to improve teaching and learning practices. One of the ways in which data from assessments may be used to improve student learning is by closer examination of the relationship between teaching practices, student engagement, and student learning. There is evidence that this relationship exists. For example, there is evidence of a relationship between student engagement and learning outcomes such as critical thinking and grades, although the strength of the relationship depends on several factors, such as the level of student ability, student year in college, the institution, and the type of student (Carini et al., 2006; Hu & McCormick, 2012).

Much of the research on the relationship between engagement and student learning has taken place at the institutional level. The National Survey of Student Engagement (NSSE, 2004) consists of a 42-item survey that assesses five clusters of student experiences that promote engagement on a university campus. These clusters are levels of academic challenge, collaborative learning, student-faculty interaction, educational experiences, and a supportive campus environment. The survey has been widely used and normed across a number of universities, and results suggest that students should be exposed to at least two high-impact teaching practices throughout their college careers in order to promote engagement and learning. There is a well-documented research base that these high-impact practices (HIPs) are desirable examples of sound teaching that promotes student engagement. The Association of American Colleges and Universities (AAC&U) serves as a clearinghouse for research on how these practices can foster engagement and learning especially among first generation, minority, and other marginalized student populations (Black, 2018; Brownell & Swaner, 2009; Coker et al., 2016; Finley & McNair, 2013; Grabowsky et al., 2017; Hu & McCormick, 2012; Kilgo et al., 2015; Kuh et al., 2015; Sandeen, 2012; Zilvinskis & Dumford, 2018).

Despite a great promise of HIPs at broad institutional levels, however, there is a further need to establish the relationship between student engagement and specific activities embedded in these practices in college courses (Hatch, 2012).

HIPS, STUDENT ENGAGEMENT, AND LEARNING OUTCOMES

Currently, the HIPs adopted by the AAC&U consist of 11 practices. These are: First-Year Seminars and Experiences, Common Intellectual Experiences, Learning Communities, Writing-Intensive Courses, Collaborative Assignments and Projects, Undergraduate Research, Diversity/Global Learning, Service Learning, Community-Based Learning, Internships, Capstone Courses and Projects, and e-Portfolios (Eynon & Gambino, 2017; Kuh et al., 2017).

Upon closer examination, there are also certain features of these practices that promote student engagement and learning. Kuh et al. (2017) describe these features as:

- Performance expectations set at appropriately high levels
- Significant investment of concentrated effort by students over an extended period of time
- Interactions with faculty and peers about substantive matters
- Experiences with diversity, wherein students are exposed to and must contend with people and circumstances that differ from those with which students are familiar
- Frequent, timely, and constructive feedback

- Opportunities to discover relevance of learning through real-world applications
- Public demonstration of competence
- Periodic, structured opportunities to reflect and integrate learning. (p. 11)

These eight features are considered characteristics of well-designed HIPs and appear to be present when students report higher levels of engagement (Kuh et al., 2017). Yet, the ways in which these features impact on student engagement are still unclear. Questions also remain as to whether the presence of these features will promote engagement across a wide variety of demographic groups or whether some of these features tend to be more associated with engagement among specific groups of students.

Evidence supporting the relationship between HIPs, student engagement, and learning outcomes is provided in Table 1.

Table 1. Evidence on Relationships between HIPs, Student Engagement, and Learning Outcomes

Topic	Findings	Authors
Experiential learning impact on engagement and gains in student learning	Instructors played most important role in students' comfort levels and positive attitudes towards experiential learning. Students perceived greater gains from experiential learning than traditional classes.	Grabowsky et al. (2017)
Learning communities' impact on grades and course completion rates	Higher levels of engagement, higher GPA, and lower absenteeism rates were discovered among students in learning communities.	Bonet and Walters (2016)
Factors associated with satisfaction and perceived value of internships	Supervisor support, mentoring, and connection between student internships and academic programs were significant predictors of student satisfaction and perceived value.	Hora et al. (2019)
HIP practices and civic involvement	Internships, undergraduate research, study abroad, community-based projects, senior capstone predicted levels of civic engagement.	Myers et al. (2019)
Characteristics of undergraduate research, internships, and senior-capstone projects associated with learning outcomes	Increased levels of expectations, faculty interaction, and real-world application were associated with positive student outcomes.	Zilvinskis (2019)
Relationship between HIPs and student engagement across different groups of students	Service learning, undergraduate research, group assignments, learning communities, course sequence, and having a faculty mentor promoted engagement across racial/ethnic categories.	Sweat et al. (2013)

Additional research has been reported that further examines the relationship between specific HIPs and student engagement. For example, Kilgo et al. (2015) conducted a longitudinal study with over 6,000 students across 17 institutions over the course of four years and found that several HIPs were associated with positive student engagement. These included reported involvement in collaborative learning and participation in undergraduate research. However, study abroad programs, internships, capstone experiences, and service-learning projects produced lesser impact on student engagement.

Conceptual Framework for Promoting Student Engagement and Learning Outcomes in Teacher Education

In a previous research study, Rodriguez and Koubek (2019) described a number of pedagogical approaches to teacher education that have been used to conceptualize the relationship between instructional approaches, engagement, and learning outcomes in teacher preparation programs. For example, in a panel report on research on the effectiveness of teaching practices in teacher preparation programs, the American Educational Research Association (AERA) identified five practices that seemed to consistently promote learning in these programs (Cochran-Smith & Zeichner, 2009). Several of these practices, such as involving students in practitioner research and the use of portfolios, are also considered high impact practices by the AAC&U. Other pedagogical frameworks have been used to frame effective instructional practices in teacher education, such as those set forth by Desimone (2009). For a more detailed description of these approaches please see Rodriguez and Koubek (2019).

The conceptual framework used in this study is based on the nearly 20 years of work set forth by Kuh and his associates and adopted by the AAC&U (Kuh et al., 2013). This framework examines the scholarship of teaching and learning from the perspective of student engagement, by asking students to report on those events that best promote their engagement and help them learn. Kuh's (2003) work enabled the development of the NSSE survey as a reliable measure of student engagement. He defined student engagement as "the time and energy students devote to educationally sound activities inside and outside of the classroom" (2003, p. 24).

Kuh solicited the assistance of the NSSE developers to further examine the survey in light of the original four engagement scales (*Academic Challenge, Active and Collaborative Learning, Student-Faculty Interaction* and *Supportive Campus Environment*) in order to assess self-reported gains in areas such as critical thinking, writing skill, and quantitative reasoning. The findings suggested that these scales were associated with increased engagement and more robust learning outcomes (Pike & Kuh, 2005).

The research on the impact of HIPs on student engagement and learning suggests that when HIPs are employed in college courses, and, more specifically, when key features of HIPs are present during instruction, students become more engaged (Kuh, 2008; Kuh et al., 2013). While this research has yielded a solid basis to support the use of HIPs to promote learning and student engagement among college students, this study will build on the existing core of evidence, as it relates to student engagement and learning in teacher preparation programs.

On the tenth anniversary since the term HIP became a part of the post-secondary education lexicon, Kuh et al. (2017) have affirmed, "The rapid propagation of the HIPs framework has arisen from one of its key strengths. It articulates and legitimizes what educators have long known intuitively: student engagement in learning matters, and some educational experiences are more impactful than others" (p. 13). White (2018) has also argued, "The time has come for higher education institutions and their faculty to make participating in high-impact activities a reality and a priority for every student" (p. 132).

Previously, Rodriguez and Koubek (2019) explored the role these practices play in promoting student engagement in a teacher preparation program at a mid-sized, master's comprehensive university in the southeastern United States. Ninety-four students completed a modified version of the NSSE survey, and students and faculty were interviewed to "unpack" the ways in which HIPs contributed to student engagement and learning in their courses. The findings indicated that faculty employed several HIPs in their courses, and that students reported that certain features of those HIPs promoted engagement. Examples of these included the use of active and collaborative learning, applied learning, the importance of constructive feedback, and the use of multiple methods of instruction.

However, in order to more carefully assess the extent to which these practices occurred among a mostly different sample of faculty and with an entirely independent sample of students, the researchers conducted another study to further examine the role these HIPs might play and whether or not the findings from the previous study held up under further scrutiny. The current study further extends the previous research by examining the extent to which students' levels of reported engagement seemed to correspond with the way in which faculty expected that course activities and practices would engage their students. The objective of this study, therefore, was to address the following two questions:

1. In what ways, if any, do the results of the current study examining the relationship between HIPs and student engagement in a teacher preparation program yield similar findings from those obtained with an independent sample of students in a previous study?
2. In what ways, if any, does the faculty's design of course activities associated with HIPs seem to result in student engagement and learning in accordance with those activities based on students' responses to a modified version of the NSSE survey and interviews?

METHODS

The investigators conducted this study under a proposal that had been previously submitted to the Institutional Review Board of the participating university. A license to use the modified version of the NSSE survey had been obtained from the holders of the survey copyright.

Similar to the previous study, the present study employed a mixed methods research approach (Green, 2007; Tashakkori & Teddlie, 2010), more specifically, the convergent mixed-method design (Creswell, 2015). This design involves the simultaneous collection and analysis of quantitative and qualitative data with the intent to merge the results of both, which in turn means that multiple perspectives can be promoted or one database can be validated with the other.

The quantitative component of the study was based on the modified NSSE survey that was completed by students who took one of the courses discussed by faculty during their focus group. The qualitative aspect was based on focus group interviews with faculty and students, conducted separately. The faculty interviews were conducted first, followed by student surveys, and followed immediately by the student focus groups.

Faculty volunteered to participate in the study in response to the investigators' request for participation through a written invitation to all full-time faculty in the College of Education. Seven faculty agreed to participate. One was not included because student data for that faculty member was not available. A total of six faculty participated in the study, two of whom had participated the previous year. Survey data were collected on 134 students, all of whom participated in the focus groups. Student surveys were administered during each of six class sessions, and students from each class participated in a focus group immediately upon completing the survey. Signed consent forms were obtained from each of the faculty and the students prior to their participation.

Five of the faculty were White, with one of Asian ethnicity. Four were female and two were male. The racial and ethnic breakdown of the students is contained in Table 2.

Table 2. Student Gender, Race and Ethnicity

Gender	**Frequency**	**Percentage**
Male	18	13.4%
Female	116	86.6%
Total	134	100.0%
Race/Ethnicity	**Frequency**	**Percentage**
Asian	2	1.5%
Black or African American	3	2.2%
Hispanic or Latino	4	3.0%
White	117	87.3%
Other	1	.7%
More than one checked	7	5.2%
Total	134	100.0%

DATA COLLECTION

Data were obtained from three sources. First, focus groups were conducted with faculty to obtain data on which HIPs, if any, they incorporated into a course they were teaching that semester, and if so, what specific activities were associated with those practices. The focus groups took place over two sessions, each approximately one and a half hours in duration. A faculty member who was unable to participate in the second group session was interviewed individually by one of the investigators. Second, the modified 24-item NSSE survey was administered to 134 students enrolled in courses taught by the faculty in the study. These students were enrolled in seven courses, two of which were separate sections of the same course taught by the same faculty member. Third, students who took the NSSE survey were interviewed immediately following completion of the survey to obtain further clarification on their responses to nine of the items on the survey. Examples of questions used in the focus groups are described below.

Faculty Focus Group Procedures

The faculty focus group interviews were conducted as a first step in order to obtain access to the students for surveys and additional focus groups with students. Once gathered in the session, faculty were first asked to complete a matrix containing a description of each of the 11 HIPs, the specific activities related to that practice they used during the course in question, and *the intended effect of that activity on student engagement.* The investigators then asked faculty, for each practice, to describe if they incorporated that practice into the course, and, if so, to explain the ways in which activities related to that practice might engage students in learning.

Faculty were asked to be as specific as possible in their descriptions of the anticipated effects on student engagement

and how they assessed whether or not the practice had met their student engagement purposes. Faculty were required to describe activities pertaining only to the course they were teaching that was also the one from which students would be surveyed and interviewed. The same question was repeated for each of the high-impact practices, and additional probing questions were used as needed. Participants were also able to ask questions of each other if needed. Not every high-impact practice was represented in the courses sampled in this study. The core question asked for each practice was:

> Please describe the ways in which you incorporate elements of _____ (High-Impact Practice) into your course. Include the following in your description:
>
> - Why you use this practice and/or consider it instructionally effective,
> - The relative amount of time devoted to this practice in your course(s),
> - Anticipated engagement of students in response to this practice,
> - Reported feedback from students on the effect of this practice on their learning if any,
> - Whether or not you consider this practice to be essential to the course, or whether you would consider an alternative practice in its place.

Faculty Focus Group Coding Procedures

The interview responses were transcribed by the investigators. Each investigator independently reviewed the transcript of the faculty focus groups and coded the participants' responses using notations and comments features in Microsoft Word. Each participant response was coded according to the smallest yet most essential idea contained in the response based on suggested procedures for developing "axial codes" provided by Glaser and Strauss (1967). After each investigator coded the entire transcript independently, they met to discuss each of the codes. One by one, the researchers examined each of their codes and came to consensus on a code that captured the most essential idea of the quoted passage in the transcript. The researchers reached 100% agreement during this process. The coded responses were grouped as they had been discussed during the interview, based on the faculty member's responses to their use of each HIP. The next step was to compare the codes with each other to determine if there was some redundancy, and when this occurred, the codes were combined into the code that best described the faculty member's response. Of the 11 HIPs, six were employed by the majority of the faculty, and one was employed by only one of the faculty. This procedure yielded a total of 61 codes distributed among the seven practices described by the faculty. The relative number of codes associated with each practice, and the number of faculty indicating they employed activities associated with that practice, can be seen in Appendix A.

NSSE Student Surveys

One of the objectives of this study was to compare the findings on student engagement associated with HIPs in teacher preparation programs with an independent sample of students. The same version of the modified 24-item survey used during the first study was also utilized in this study. As in the first study, the modified version was based on items from the original version, in which engagement indicators and themes were developed through a combination of both statistical analysis and theory. The 24-item version of this modified survey used in this and the previous study retained the majority of the engagement indicators present on the original instrument. The ones that were not retained related to broader, campus-wide issues and overall relationships with faculty, which were unrelated to the objectives of this study. The modified survey contained three out of the four engagement themes and seven of the 10 related indicators from the original NSSE survey for analysis in this study, which are as follows:

1. Academic Challenge: related indicators included *Higher Order Learning, Reflective and Integrative Learning, Learning Strategies* and *Quantitative Reasoning*;
2. Learning with Peers: related indicators included *Collaborative Learning* and *Discussion with Diverse Others*;
3. Experiences with Faculty: related indicators included *Effective Teaching Practices*.

Student Surveys and Focus Group Procedures.

Students who participated in the courses taught by the faculty in the study were asked to complete the modified NSSE survey and participate in a follow-up focus group interview immediately upon completion. The survey administrations and follow-up focus groups were conducted by one of the investigators. Students participated in focus groups immediately upon completion of the survey. Surveys were administered during a regularly scheduled class period except for one course that met outside of its regular class period. During the interviews, students were asked to further explain the basis for their survey responses. The survey administrations lasted between 15 and 20 minutes, while the focus group interviews took between 30 and 45 minutes to complete. An example of a student focus group semi-structured interview question is as follows: "Reflect on your responses to question 4. Which, if any, of the activities indicated, performed by your instructor, do you consider the most conducive to your engagement with course objectives? Please explain why."

Student responses to interviews were summarized using a coding process similar to the one used to code the faculty interview responses. However, one notable difference was that unlike the faculty coding procedures, student responses were not grouped *a priori,* as they had been with faculty since those responses were grouped by HIP. For the student interviews, even though the questions were asked in relation to each of nine survey items, the coding process took place more inductively and themes were developed based on the students' responses in a more "grounded" manner (Glaser & Strauss, 1967). As with the faculty interviews, the investigators first coded each focus group interview independently and then met to achieve consensus on the language of each of the codes. The process involved constant comparison from one code to the next, as well as from one question to the next across student groups.

The coding process yielded seven "major" themes, consisting of 249 codes, and three "minor" themes, consisting of 31 codes. A theme was considered "major" if there was a minimum of 10 codes associated with the theme and the codes were associated with multiple courses. The major themes and their associated codes can be seen in Appendix B.

Survey responses were analyzed using SPSS 25. Analyses included descriptive statistics and multiple two-tailed t-tests with independent samples to compare differences, if any, between the

strength of the engagement indicators between this current and the previous study.

RESULTS

Question 1 will be addressed through both statistical comparisons of survey data from Study 1 and Study 2 (the current study) as well as the themes that emerged from focus group interviews with faculty and students. Question 2 will be addressed by examining faculty members' coded responses during focus group interviews regarding their design of activities related to HIPs and students' responses on the impact of those activities on their engagement based on their responses to survey data and student focus group interviews. Triangulation of data sources based on student surveys, faculty focus-group interviews, and student focus-group interviews assisted in discovering relationships and consistency among the findings, accounting for bias, and ensuring the findings can be verified by what participants say, do, and write (Mertler, 2020).

Faculty Interviews

In this study, the analysis of faculty interview responses provided evidence of activities related to eight of 11 HIPs. However, one of the practices, e-Portfolios, was reported as a course activity by only one of the faculty members and was therefore not considered representative of the sample. Only practices that were reported used by at least half of the respondents were included. The following seven HIPs were identified: *Common Intellectual Experiences, Learning Communities, Writing-Intensive Practices, Collaborative Assignments, Diversity and Global Learning, Service/ Community-Based Learning*, and *Internships*. Even though 67% of the faculty in Study 2 were not a part of Study 1 (four of six), six of these were also identified by faculty in Study 1. *Common Intellectual Experiences* was an additional HIP identified in the current study.

Each HIP is defined by the codes assigned to faculty comments describing the ways in which they employed activities related to the HIP in their course. Another indicator of the prevalence of the activity was the number of faculty members who stated they employed a particular activity related to a HIP in the course. Therefore, the number of codes, in combination with the number of faculty who described an activity related to a particular HIP, can be taken together as a measure of the prevalence of the HIP in the courses sampled in the study. The percentages of codes associated with each practice for each of the studies can be seen in Table 3.

Table 3. HIPs and Percentage of Codes for Each Practice

High Impact Practice	% of Codes Study 1*	% of Codes Study 2**
Common Intellectual Experiences	***	15%
Internships	26%	5%
Collaborative Assignments	18%	27%
Writing Intensive Practices	16%	8%
Learning Communities	15%	13%
Diversity and Global Learning	21%	27%
Service Learning	18%	5%

Note: * Number of codes in Study 1 = 61; * Number of codes in Study 2 = 60; *** Not reported as a practice in Study 1.

Unlike the first study, *Common Intellectual Experiences* was a prevalent HIP in course activities in the current study. The remaining six HIPs were prevalent in both studies. Activities related to *Internships* and *Service Learning* were more prevalent in Study 1 than Study 2. Activities related to *Collaborative Learning* were described as occurring more often in Study 2 than Study 1. *Writing-Intensive Activities* were more prevalent in Study 1 than Study 2. The other HIPs were relatively evenly represented between the two studies.

Student Surveys

Student Year

Table 4 shows the frequency and percentages for students by year for each of the studies. As can be seen, Study 2 contained a more even distribution of students across year levels than Study 1, which consisted of primarily upperclassmen.

Table 4. Comparison of Student Year Percentages between Study 1 and Study 2

Year Level	Percentage Study 1	Percentage Study 2
Freshman	5.3%	5.2%
Sophomore	4.3%	35.8%
Junior	26.6%	17.9%
Senior	61.7%	36.6%
Graduate	1.1%	4.5%
Other	1.1%	0
Total	100.0%	100.0

Note: N Study 1= 94 students; N Study 2 = 134 students.

Academic Challenge

The data from the modified NSSE survey are based on the same indicators as those identified by the Center for Postsecondary Research (NSSE, 2004). Table 5 contains the survey results for *Academic Challenge*, *Reflective and Integrative Learning*.

Table 5. Theme: Academic Challenge - Reflective and Integrative Learning

	Mean	Standard. Deviation
Connected ideas to prior knowledge	3.42	.70
Learned something that changed understanding	3.40	.68
Understand views of others	3.31	.77
Connected learning to societal issues	3.29	.77
Included diverse perspectives	3.22	.93
Examined strengths/weaknesses of own views	3.10	.83
Combined ideas from different courses	3.00	.77

Note: N = 134;
Rating scale: 4 = Very often; 3 = Often; 2 = Sometimes; 1 = Never.

As in Study 1, students reported all activities associated with *Reflective and Integrative Learning* as occurring often to very often. The indicator reported occurring most often was connecting ideas to prior understanding, followed closely by learning something that challenged the students' understanding.

Table 6 contains the results for *Academic Challenge, Learning Strategies*. The most frequently reported learning strategy was identifying key information from reading. Reviewing notes after class was reported as occurring least frequently, only sometimes.

Table 6. Theme: Academic Challenge – Learning Strategies

	Mean	Standard Deviation
Identified key information from reading	3.51	.66
Summarized what you learned	3.01	.87
Reviewed notes after class	2.39	.98

Note: N = 134;
Rating scale: 4 = Very often; 3 = Often; 2 = Sometimes; 1 = Never.

Table 7 reports results for *Academic Challenge, Higher Order Learning*. As in Study 1, students reported learning in ways that encouraged deeper understanding of the material, such as applying facts, forming new ideas, evaluating ideas, and analyzing concepts. Lower forms of learning, such as memorization, were reported as occurring less often.

Table 7. Theme: Academic Challenge - Higher Order Learning		
Item	**Mean**	**Standard Deviation**
Applying facts	3.28	.74
Analyzing ideas	3.36	.71
Evaluating points of view	3.25	.80
Forming new ideas	3.25	.73
Memorizing course material	2.10	1.04
Note: N = 134; Rating scale: 4 = Very often; 3 = Often; 2 = Sometimes; 1 = Never; Memorizing course material is not associated with higher order learning. It is included to show the contrast with higher order learning ratings of the other items.		

Academic Challenge, Quantitative Reasoning, is reported in Table 8. As expected, students reported engagement through quantitative reasoning as occurring less frequently than the other indicators even though one of the courses in the sample was a course on teaching mathematics.

Table 8. Theme: Academic Challenge - Quantitative Reasoning		
	Mean	**Standard Deviation**
Evaluated what others have concluded from numerical information	2.37	.97
Reached conclusions based on analysis of numerical data	2.36	.96
Used numerical information to analyze problems	2.13	.84
Note: N = 134; Rating scale: 4 = Very often; 3 = Often; 2 = Sometimes; 1 = Never.		

Learning from Peers

Table 9 shows the data for the theme, *Learning from Peers* and the related engagement indicator, *Collaborative Learning*. Of the three items on this indicator, students reported working with others on projects occurred often to very often. Yet, explaining material to others and seeking clarification from other students occurred somewhat less frequently.

Table 9. Theme: Learning from Peers - Collaborative Learning		
	Mean	**Standard Deviation**
Worked with other students on projects	3.26	.77
Explained course material to other students	2.66	.82
Asked another student to help understand	2.47	.81
Note: N = 134; Rating scale: 4 = Very often; 3 = Often; 2 = Sometimes; 1 = Never.		

Table 10 provides data for the theme of *Learning from Peer, Discussions with Diverse Others*. Students did not report engagement associated with discussions with others on topics different from their own as frequently as they reported engagement on other indicators. While they spoke of the importance of working with diverse children in practicums during the interviews, these activities seemed to occur less frequently in a classroom setting, perhaps as a result of the student body being relatively homogeneous in terms of race and ethnicity.

Table 10. Theme: Learning with Peers - Discussions with Diverse Others		
Topic	**Mean**	**Standard Deviation**
Religious beliefs	2.75	.89
Political views	2.72	.86
Economic background	2.69	.96
Race or ethnicity	2.55	1.07
Note: N = 134; Rating scale: 4 = Very often; 3 = Often; 2 = Sometimes; 1 = Never.		

Experiences with Faculty

The NSSE survey measures engagement based on interactions with faculty both in and outside of the classroom. Table 11 reports findings on the *Experiences with Faculty, Effective Teaching Practices* indicator. As in the previous study, items related to engagement based on instructor practices were rated consistently the highest in promoting engagement. Instructor practices such as clearly explaining goals and using multiple examples and illustrations were reported as occurring most often.

Table 11. Theme: Experiences with Faculty – Effective Teaching Practices		
	Mean	**Std. Deviation**
Clearly explained course goals	3.51	.71
Used examples or illustrations	3.50	.76
Provided feedback on work	3.39	.86
Course organized	3.36	.77
Provided feedback on tests	3.28	.83
Note: N = 134; Rating Scale: 4 = Very much; 3 = Quite a bit; 2 = Some; 1 = Very little.		

Learning Outcomes

Table 12 displays student responses on the most frequently occurring learning outcomes. Students reported the most frequently occurring learning outcomes as working well with others, applying knowledge, and thinking critically. These outcomes were reported to occur between often to very often. Analyzing numerical information was reported as occurring only sometimes.

Table 12. Learning Outcomes		
	Mean	**Std. Deviation**
Working well with others	3.54	.69
Acquiring job knowledge	3.30	.85
Thinking critically	3.30	.82
Being an active citizen	2.96	.98
Understanding backgrounds of others	2.88	1.06
Clarifying personal values	2.88	.96
Solving real-world problems	2.85	.90
Speaking clearly	2.69	.90
Writing clearly	2.68	.87
Analyzing numerical information	1.96	1.04
Note: N = 134; Rating Scale: 4 = Very much; 3 = Quite a bit; 2 = Some; 1 = Very little.		

Comparison of Student NSSE Survey Results between Study 1 and Study 2

One of the primary objectives of this study was to examine the reliability of the results obtained in the previous study by replicating the study with an independent sample of students. A comparison of the means between the two samples on the engagement indicators was accomplished using t-tests for independent samples and unequal sample sizes as can be seen in Table 13. The N in Study 1 was 94, and the N in Study 2 was 134.

Table 13. Comparison of Means: Statistically Significant Differences on Survey Items					
	Study 1		**Study 2**		
Item	**Mean**	**SD**	**Mean**	**SD**	***p***
Reached conclusions based on analysis of numerical data (Quantitative Reasoning)	2.69	1.08	2.36	.96	.015
Worked with other students on projects (Collaborative Learning)	3.49	.68	3.26	.77	.023
Provided feedback on tests (Instructor Practices)	3.50	.74	3.26	.83	.044
Note: N Study 1 = 94; N Study 2 = 134; $p < 05$.					

These comparisons were conducted for all of the engagement themes, indicators, and learning outcomes reported above; however, no statistically significant differences were found in the ratings of engagement by students on almost all of the survey items. Of the 37 items on the modified survey that comprise the analyses of the various engagement indicators reported in this study, only three were statistically significantly different between Studies 1 and 2. Even though these differences were found; however, it should be noted that the perceived frequency of these indicators, relative to *each other*, was very similar for both studies. Overall, the results of the survey analyses suggest that independent samples of students in these teacher preparation programs responded similarly to questions about which course activities and instructor practices promoted their engagement and learning.

Student Focus Group Interviews

The analysis of student interview responses yielded a total of seven major themes and two minor themes as well as a small handful of miscellaneous codes. There were 249 codes distributed among the seven major themes and 31 among the minor themes and miscellaneous category. Appendix B shows the seven major themes and associated codes based on student interview responses ranked according to the relative number of codes associated with that theme by the investigators.

By far the most prevalent theme in discussions with students about activities that engaged them in learning was the idea that learning was applicable to the real world, particularly to their future employment. Students expressed repeatedly the notion that course activities were connected to their future jobs as educators, that writing assignments were connected to real-life scenarios with plenty of feedback, and that internships promoted engagement in learning. As Participant 16 (Course 2) stated:

> We definitely acquired job or work-related knowledge or skills because this entire course was focused on preparing us to be teachers. So, we learned about how to teach math in a way that kids will enjoy and understand. That's pretty much one of the points of the course.

Students also stressed the importance of reflection and critical analysis from multiple perspectives. Participant 17 (Course 2) commented on this idea:

> Throughout the course, we tried to better understand someone else's views by imagining how an issue looks from their perspective… a lot of the times we connected back to misconceptions that students would have and misconceptions that teachers may have on teaching certain topics, and the best way to approach that. So, I think we did a lot of that throughout the course.

Students reported that the instructor's organization, clarity of expectations, and course structure was also conducive to their engagement and learning, as stated by Participant 6 (Course 3):

> I feel like she taught course sessions in an organized way… she always had an agenda, she always had a beginning, middle, and close, and… even if when we're in discussions and we asked her about something else, she would easily adapt and go and dive deeper into that.

The fourth major theme involved the instructor's use of multiple teaching methods as a tool for engagement and learning. Included in this theme was the instructor's use of timely and constructive feedback as well as the use of multiple illustrations, modeling, and videos to drive points home. As Participant 4 (Course 2) mentioned,

> We played a lot of games. So, each class we would get involved and participated in a different game. That kind of challenged you because a lot of these games we hadn't heard of and so we were not only learning this content, but we were learning the rules of how to play a game, and how to implement them in our classroom. And a lot of them were working together with a team or a partner, so on. And we learned how each game related to math.

Another important theme involved learning through discussions and collaboration. Students reported a great deal of activity involving projects and discussions in both small groups and whole class formats. Participant 6 (Course 4) expressed the idea of collaboration as following:

> It allowed us all to really get to know everyone's background. So, it kind of set us up to understand more of where their beliefs were coming from and the kind of people that they were and I think that this really helped in engaging the material… with our peers and having that… open dialogue in class, that helped us work efficiently with each other and to really get to talk about a lot of…the topics in a deep way, instead of just that surface level.

Students considered the instructor's availability, flexibility, and caring attitude an important element of their engagement and learning. This attitude encouraged students to take risks they might not otherwise have taken. For example, Participant 23 (Course 6B) stated, "…[he] really made this classroom kind of a safe space… it made it easier for us to kind of go out on a limb and explore what we know."

The seventh major theme involved experiencing activities that encouraged students to make connections between the course material and content from other courses or their own experiences. Participant 3 (Course 3) explained:

> I feel like this course especially was a very discussion-based course where we talked a lot about what was going on in our practicums. We had a ten-minute time in each class beforehand that we would just go over "Has anything happened in your practicum recently? Do you have any questions?" or like, "How did you handle a certain situation?" and I think that was a very practical aspect of the course that was consistent throughout it.

In addition to the seven major themes, students identified two relatively minor but still noteworthy factors that contributed to their engagement and learning and a handful of unrelated ideas. The two minor themes were identified as *Diversity, Equity, and Objectivity*, and *Professionalism, Standards, and Respect.* Appendix C depicts the minor themes and miscellaneous category.

Similarities and Differences between Student Focus Group Themes in Study 1 and Study 2

Table 14 shows the major themes derived from Study 2 cross-referenced with those obtained in Study 1. While there was a greater number of themes derived from the previous study, the table shows that most of them were conceptually similar to the seven major themes obtained in Study 2. Two exceptions were that *Writing* emerged as an important theme in Study 1 but not in Study 2.

Table 14. Comparison of Student Focus Group Themes between Study 1 and Study 2	
Study 1	**Study 2**
Applied course content to the real world Ample opportunity to address real-world problems and acquire job-related knowledge Applied learning emphasized Challenge is based upon application of content to teaching practices and future employment Memorization de-emphasized	Real-world applications and relevance to employment
Activities were based on social/peer Interactions Opportunities to teach and work effectively with others	Discussions and collaboration
Activities viewed from multiple perspectives Professor encouraged different points of view Familiar cohort helped level of comfort with different points of view Understanding different points of view helped frame culturally responsive teaching Understanding different points of view was challenging	Reflections, critical thinking, and multiple perspectives
Emphasis on videos, illustrations, and examples Extensive use of feedback	Multiple teaching methods and use of feedback
Clearly explained expectations, objectives, and assessments	Organization, expectations, and structure
Connected ideas from other courses or prior experience	Connections between course content and other courses and experiences
Writing is a tool for reflection Writing is a tool to organize thoughts and communicate in class	*
*	Instructor availability, flexibility, and caring
Note: * Not identified as a theme in study.	

Another was that *Instructor Availability and Flexibility* emerged as a theme in Study 2 but not in Study 1.

Correspondence between Faculty Design of HIP Activities and Reported Engagement

Table 15 depicts the correspondence between faculty design of HIP activities and student reported engagement. As can be seen from this table, while there was evidence that many of the HIP practices by faculty were associated with student-reported engagement, there was less evidence for others. These results are further discussed below.

DISCUSSION

A major aim of this study was an effort to confirm the validity and reliability of findings on the relationship between HIPs and student engagement in a teacher preparation program with different samples of participants. While statistical measures such as significance and effect sizes can be useful, the researchers felt it was important to confirm the findings from the earlier study with a follow-up effort to determine if the initial findings held up well with a separate sample of students in different courses. The first question asked in this study was whether the findings from the previous study might also apply to a broader sample of students and faculty in teacher preparation programs. The answer to this question could not be clearer. A separate sample of faculty, four out of six of whom were not a part of the initial sample, employed similar practices and activities in their course design.

The use of activities associated with Collaborative Assignments, Learning Communities, and Diversity and Global Learning were employed similarly across both studies, relative to the total number of course activities employed. Internships, while present in both studies, were more prevalent in Study 1. This could be due to differences in the proportion of seniors in each study since these programs reserve internship activities for courses scheduled later in a student's academic career. Writing-Intensive Activities, while again present in both samples of faculty, were more prevalent in the first study than in the current one. This was also true of activities related to Service Learning.

On the other hand, Common Intellectual Experiences were an integral part of the course design for several faculty in this sample but not in the previous study. This may have also accounted for the relative distribution of the percentages of HIP activities reported in the current study.

The similarities in the use of HIPs between the two studies are far greater than the differences. One of the key takeaways from this study is that faculty in this teacher preparation program employ the use of HIPs on a regular basis through a number of courses across much of a student's academic career.

The similarities between the two studies in student-reported engagement is even more striking. Tests of statistical significance between the means on the NSSE survey between the two independent groups of samples suggest that students are engaged in similar ways. Given that faculty are employing similar practices, this might be expected, but the strength of the correspondence was unexpected.

Students in both studies were engaged through activities that promoted reflective and integrative learning. Indicators of this theme included connecting ideas with prior knowledge, learning something that changed understanding, and understanding the views of others. On the other hand, students in both studies reported less reliance on learning strategies, such as reviewing notes after class, as an indicator of academic challenge. One explanation for this finding is that in both of these samples, challenge was less a result of having to memorize specific bits of information as having to apply what was learned to real-life situations. Challenge came from applying and analyzing facts, not remembering them.

In both groups, reliance on quantitative reasoning was reported less frequently. Given these courses had little to do with math and science, that could be expected. However, as in the first study, working with others collaboratively was an important part of learning. Students emphasized the value of working together on projects and discussions both in small and whole groups, which seemed to be a daily occurrence. Other important themes shared in both studies involved the value of the instructor using multiple methods of teaching, clearly explained expectations and objectives, and overall course organization.

Table 15. Correspondence between Faculty Use of HIP and Reported Student Engagement		
Number of Codes and Courses in which Faculty Discussed HIP	**Evidence for Engagement from Student Focus Groups**	**Evidence for Engagement from Survey**
Collaborative Assignments (16) 6 out of 6 courses	*Major Theme 5: Discussions and Collaboration (27)* 6 out of 6 courses	*Theme: Learning from Peers - Collaborative Learning* More than 3.0 on "worked with other students" indicator & less than 3.0 on other indicators
Diversity and Global Learning (16) 6 out of 6 courses	*Minor Theme 1: Diversity, Equity and Objectivity (10)* 3 out of 6 courses	*Theme: Learning with Peers - Discussions with Diverse Others* Less than 3.0 on all indicators
Common Intellectual Experiences (9) 4 out of 6 courses	*Major Theme 4: Multiple Teaching Methods and Use of Feedback (30)* 4 out of 6 courses	*Theme: Experiences with Faculty – Effective Teaching Practices* 3.0 or greater on all indicators
Learning Communities (8) 5 out of 6 courses	*Major Theme 7: Connections between Course Content and Other Courses and Experiences (15)* 5 out of 6 courses	*Theme: Academic Challenge - Reflective and Integrative Learning* 3.0 or greater on all indicators
Writing-Intensive Activities (5) 2 out of 6 courses	Not reported	*Learning Outcomes* Not reported as frequently occurring
Service/Community-Based Learning (3) & Internships (3) 3 out of 6 courses	*Major Theme 1: Real-World Applications and Relevance to Employment* Code 3. Service learning and internships engaged students and promoted learning of course content (12) 3 out of 6 courses	Not measured
Note: Two sections of the same course were counted as one under course representation.		

It is interesting to note that while students emphasized the value of understanding multiple perspectives in the classroom and applying that to their teaching, they also indicated that their own homogeneous ethnic and racial backgrounds may have limited their understanding of diversity as it relates to racial and ethnic equity issues.

Students in the current study did not report their instructors emphasizing writing as a teaching tool or method of engagement, as they had in the first study. Conversely, perhaps again because of differences in where the students were in their academic careers, the less experiences students in the current study reported that instructor availability and flexibility was very important. This was less the case in the previous study that contained a more mature group of seniors as participants.

Correspondence between Faculty Design of HIP Activities and Reported Engagement

Another aim of this study was to examine the correspondence between what faculty *said* they did to engage students and what students *reported* engaged them. Because faculty spent an inordinate amount of time preparing for courses with the hope of engaging students in learning, it would be helpful to know which areas of course design related to HIPs seem to get the best "bang for the buck."

Similar to results from other studies (Kilgo et al., 2015; Sweat et al., 2013; Zilvinskis & Dumford, 2018), collaborative activities were associated with positive effects on student engagement by both faculty and students in this study. Of all of the activities discussed by faculty in their focus groups, there seemed to be more discussion about activities that fostered engagement through collaboration than any other course activity. Sixteen of the 61 coded statements were related to this HIP. This means that faculty expended a great deal of time and effort designing activities with the purpose of engaging students through collaborative work. While students did report that collaboration took place often in their courses, "working with others" was reported as occurring much more frequently than "asking other students for help to understand" or "explaining course material to other students." Given the importance of students displaying competence as an important feature of a HIP done well (Kuh et al., 2017), faculty might pay more attention to designing collaborative activities in ways that encourage students to engage in these displays of competence in order to build confidence in skills as they are being learned.

As frequently, faculty discussed the importance of imbuing their courses with activities related to *Diversity and Global Learning*. They relied heavily on students' experiences in their internships as a tool to teach them to better understand diverse points of view and to learn to be sensitive to the impact of race and ethnicity on their own students' learning once they became teachers. While students reported that learning to view issues from multiple perspectives occurred often, they bemoaned the fact that their own homogeneous ethnic and racial makeup may have limited their appreciation for diversity when it came to race, ethnicity, and socio-economic status.

Faculty expressed the importance of teaching writing conventions as an important practice. While students appreciated the value of frequent and constructive feedback, they did not seem to value learning these writing conventions and considered them tangential to the most important and engaging course content – how to become a better teacher. Perhaps the most noteworthy finding from both studies is that students are most engaged through activities that are tied to their future jobs, and it is likely that preservice teachers do not view writing as a core component of their future jobs.

Aside from these discrepancies, most of what faculty intended to do to engage students in their courses seemed to bear fruit. Faculty relied on the importance of *Internships and Service Learning* as essential components of engagement, and students reported that to be the case. This finding concurs with the outcomes of Zilvinskis's (2019) study in which real-world application activities were associated with positive student outcomes. It also supports Grabowsky et al.'s (2017) idea that experiential learning has an impact on student engagement and gains in student learning.

Faculty also emphasized the importance of making curricular connections. Students appreciated the way content was linked to prior courses and their own experiences and reported those activities as particularly engaging. Faculty said they spent considerable time among themselves aligning courses to ensure that students build skills effectively from one course to the next, and students seemed to recognize that effort and were able to be more engaged as a result of it. This finding further supports Sweat et al.'s (2013) study in which the researchers found that HIPs, such as service learning, group assignments, learning communities, and sequence of courses, have an effect on student engagement.

BEST PRACTICES

The results of this study, as well as those reported in the previous study, suggest the following practices were the most helpful in promoting engagement among students in teacher preparation programs.

Collaborative Practices

Teaching methods that fostered collaboration among students and that allowed them to demonstrate their own skills and competence were most useful in fostering student engagement.

Multiple Methods

Teachers who employed multiple methods of presentation and representation, including the use of various forms of audio-visual techniques that allowed for students to respond in a variety of ways, were most useful in promoting student engagement.

Cross-Curricular Connections

Teachers, who emphasized the connection between course material and content from other courses, and who supported connections between the content and school experiences, were able to engage students more effectively.

Diversity and Inclusion

Students were more engaged when the teachers validated different points of view and emphasized the importance of understanding the role diverse backgrounds play in working effectively with all students.

LIMITATIONS

The homogeneous nature of the racial and ethnic background of both the faculty and students can be considered a limitation in both studies. We would have liked to have been able to report that the findings from this study applied equally across ethnic and racial lines, but that will need to be left for yet another research project. Another limitation lies in the number of faculty and students that were part of this study. As in Study 1, a small sample of participants makes it more difficult to generalize to other settings and populations.

AREAS FOR FURTHER RESEARCH

There are a number of areas related to the features of HIPs that might lead to highest levels of engagement that merit further study. What are the features of feedback that matter the most besides frequency and recency? Can some forms of feedback reduce engagement if presented incorrectly?

We would also like to encourage further research as it relates to the design of group collaboration. While we know that learning from peers promotes engagement, what are the features of the design of small group work that can lead to greatest learning gains? Finally, perhaps now more than ever, further research is needed to explore the ways high-impact practices that engage students in virtual environments can be used to promote learning outcomes.

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Appendix A

HIPs, faculty interview themes, and faculty/course representation (N=6). Faculty member 5 was not used in this study.

Practice	Codes	Course
I. Common Intellectual Experiences	1. One theme in instruction of children's literature is diversity.	1
	2. Class activities are linked to practicum.	1
	3. Students are taught to use developmentally appropriate materials.	1
	4. Application and critical knowledge are important.	1
	5. Finding multi-culturally themes books for read-aloud in practicum is difficult.	1
	6. Literacy assessments are discussed with practicum cooperating teachers.	1
	7. Class activity is based on a community project with parents.	2
	8. Debates are used to foster engagement.	7
	9. Using books with multiculturally based themes for read-aloud in practicums is difficult because cooperating teachers do not feel comfortable discussing them with students.	4
	Subtotal: 9	4
II. Learning Communities	10. Faculty is intentional about aligning courses so that they build upon each other.	1
	11. Vertical alignment has been difficult.	1
	12. Instruction is intentional and faculty cooperate to address student needs.	3
	13. Instruction on formative assessment was considered useful by students.	3
	14. Students participate in a several-week immersion experience at the schools as a part of their practicum, which helps integrate learning across several courses.	4
	15. Students enjoy this immersion experience because it lets them see the school from multiple perspectives and get involved in more than just instructional practice.	4
	16. Faculty are purposefully trying to teach students a student-centered approach to teaching.	2
	17. Students are grouped by discipline, so the relationships they develop sometimes continue after the course has ended.	7
	Subtotal: 8	5
III. Writing-Intensive Activities	18. Students write a draft of paper, get feedback from students and teacher, and then produce a final draft.	6
	19. Students are taught conventions of technical writing.	6
	20. Students express appreciation for not having to create an entirely new work and to actually fine tune their philosophy of education paper.	6
	21. Students are taught conventions of technical writing.	6
	22. Students post thought on the discussion board and receive feedback from teacher and other students.	7
	Subtotal: 5	2

Practice	Codes	Course
IV. Collaborative Assignments	23. Students work in groups and reflect on their assignments.	7
	24. Students do not like to be lectured to.	7
	25. Group assignments require that students think more critically about what they are learning.	7
	26. Students work collaboratively and have to evaluate what they have learned.	7
	27. Students learn how to advocate for a particular stance or position on a topic.	7
	28. Students choose topics of discussion for some collaborative assignments.	7
	29. Students are grouped in a variety of ways to encourage sharpness of ideas.	6
	30. Important to group students so that they are not in their comfort zone.	6
	31. Students can also self-select groups at times.	6
	32. Almost all in-class instruction is collaborative.	2
	33. Students enjoy instruction through playing games.	2
	34. Development of unit plan class assignment is an opportunity for students to receive ongoing feedback on their thinking in an applied manner.	3
	35. Assignment is connected to current or past historical event so it is viewed as relevant.	3
	36. Working collaboratively on an assignment involving a current event allows students to talk about thing they would not normally talk about with others.	4
	37. Sharing feedback about some assignments is a scary experience for students.	4
	38. Family Literacy Night is an opportunity for students to work with families and learn more about the practical implications of what they are teaching.	1
	Subtotal: 16	6
V. Diversity/ Global Learning	39. Difficult issues involving global issues can be discussed in the classroom.	6
	40. Students experience going to an elementary school to see issues discussed in the classroom first-hand.	6
	41. By going to the school students are able to see issues of segregation and lack of resources come into play.	6
	42. Students engage in a community-based experience by going to the school five times during the semester.	6
	43. Course is designed to provide students with experiences by working with elementary students in a real-world setting.	6
	44. Students are getting experience working with students with special needs in their field experiences.	6
	45. Students develop a positive relationship with the teachers they worked with in their field experience.	6
	46. This instructor has her entire class experience the poverty and cultural simulation where students put their perspectives in solving the problems where they have to in different cultural and socioeconomic settings.	4
	47. Students react positively to poverty and cultural simulations and consider those hand-on experiences effective because they bring contextualized perspective out of these experiences.	4
	48. It is a challenge to talk about certain difficult topics, such as adoption, when working with small children.	1
	49. Initially it is difficult to find a book that departs from certain preferred themes, but once found it is easier to address.	1

Practice	Codes	Course
V. Diversity/ Global Learning(cont'd)	50. Students bring in a personal artifact that reflects on their cultural background and have to discuss it. Students learn how they are a part of multiple diverse backgrounds.	3
	51. Students are required to do assignments that connect local experiences to global and diverse thinking, including visit to Monticello and discussion on slavery.	3
	52. Math algorithms are taught with reference to how cultural differences affect the algorithms.	2
	53. Allowing students to solve a problem in different ways provides insight into how students from different regions may have different ways of approaching the same problem.	2
	54. Students tutor in the schools and that becomes a way for them to tie together what they are learning in class to daily application. These experiences allow them to connect more effectively with the importance of diversity and supporting students who are ESOL	7
	Subtotal: 16	6
VI. Service/ Community-Based Learning	55. The quality of the placement in service learning depends greatly on activities students are required to perform.	4
	56. Service learning is an opportunity to extend relationships with the community.	3
	57. Service-learning placements allow students to see the connections in what they learn with the real world.	7
	Subtotal: 3	3
VI. Internships	58. Students find it important to have an opportunity to reflect on and discuss their internship experiences.	3
	59. The type of placement in an internship is critical. Some are valuable and some less so.	4
	60. Sometimes practicum experiences present a challenge to students implementing things they have learned in the classroom due to participating teachers' resistance to teaching things that are different from what they normally do.	2
	Subtotal: 3	3
	Total codes: 60	

Appendix B

Student interview major themes, code frequency, and course representation.

Theme	Code	Code Frequency	Course Representation
Theme 1: Real-World Applications and Relevance to Employment	1. Course activities encouraged students to connect course content to their future jobs as educators	19	6
	2. Shorter writing assignments with feedback that were connected to real-life experiences were considered beneficial	13	6
	3. Service learning and internships engaged students and promoted learning of course content	12	3
	4. Course activities encouraged less emphasis on memorization and more on application	6	4
	5. Course encouraged civic mindedness	4	3
	6. Instructor modeled what he taught and helped prepare students for future jobs	4	2
	7. Course content was connected to real-world events	3	2
	8. Writing assignments that were not applicable to future jobs were of questionable value	2	2
	9. The connection between students' future jobs and course material was challenging and engaging	2	2
	10. Having people from the field come into the classroom was helpful because it was relevant and practical	2	2
	11. Exams required memorization of the material	1	1
	12. Activities were not applicable to real-world situations	1	1
	Subtotal	69	
Theme 2: Reflections, Critical Thinking, and Multiple Perspectives	13. Thinking critically and independently about material was emphasized	15	5
	14. Course activities promoted engagement by helping students understand content from different perspectives	13	5
	15. Course activities encouraged appreciation of diversity and multiple perspectives	7	4
	16. Course discussions and activities challenged students' preconceived notions	6	4
	17. Written assignments asked students to reflect on their growth	2	2
	18. Reading reflections promoted accountability and made students read material	1	1
	19. Analyses of thought processes were made using numbers	1	1
	Subtotal	45	

Theme	Code	Code Frequency	Course Representation
Theme 3: Organization, Expectations, and Structure	20. Activities were well-organized and expectations were clearly defined	9	4
	21. Topics from one class to another were not well connected nor organized	6	2
	22. Exams were not aligned with class discussions	6	1
	23. Assignments lacked performance criteria and clear guidelines	5	2
	24. Writing assignments were reasonable, realistic, and efficient	3	2
	25. Presentations designed for students to get to know each other would have been more effective if they occurred earlier	2	1
	26. Some assignments were better structured than others	1	1
	27. The instructor provided resources and required information to guide discussions in class	1	1
	28. The instructor connected lecture content to assignments	1	1
	29. Readings were relevant to class discussions	2	1
	30. Poor timing for writing assignments contributed to a lack of accountability for reading assignments	2	1
	31. The larger number of assignments enabled students to not have to do their best work on all of them	2	1
	Subtotal	40	
Theme 4: Multiple Teaching Methods and Use of Feedback	32. Instructor provided useful feedback	4	4
	33. Instructor provided valuable feedback in a timely manner	4	3
	34. Multiple methods such as explanations, illustrations, modeling, and videos were used	4	2
	35. Class structure, games, and other activities promoted engagement	3	2
	36. Able to re-do assignments based on feedback provided	3	2
	37. Multiple examples to help understand and connect with the material were provided	3	1
	38. Activities were based on the use of technology	2	1
	39. Instructor provided extensive feedback on writing assignments	2	1
	40. Content was applied using kinesthetic activities	2	1
	41. Feedback was helpful but not timely	1	1
	42. Writing assignments were considered less useful when there was delayed feedback	1	1
	43. Ongoing self-reflection was encouraged and valuable feedback was provided	1	1
	Subtotal	30	

Theme	Code	Code Frequency	Course Representation
Theme 5: Discussions and Collaboration	44. Small group and whole class discussions promoted engagement and learning	14	5
	45. Classroom presentations and discussions deepened understanding of course material and students' own beliefs	6	4
	46. Classroom discussions went into great depth and analysis	2	2
	47. Working with others helped students to be engaged instead of listening to a lecture	2	2
	48. Working in groups on activities and projects was enjoyable	1	1
	49. Class discussions promoted understanding of diversity	1	1
	50. The instructor encouraged students to speak publicly through discussions and presentations	1	1
	Subtotal	27	
Theme 6: Instructor Availability, Flexibility, and Caring	51. Students took risks because the instructor cared and provided a safe and non-judgmental environment	11	5
	52. Instructor's positive attitude motivated students to become teachers	6	1
	53. Instructor was available outside of class	4	2
	54. Instructor was flexible and adaptable	2	2
	Subtotal	23	
Theme 7: Connections between Course Content and other Courses and Experiences	55. Course content was connected with content from other courses and prior experiences.	13	5
	56. Writing assignments were lengthy and time-consuming but helped consolidate ideas.	1	1
	57. Final paper connected standards with personal philosophies of teaching	1	1
	Subtotal	15	
	Total: 249		

Appendix C

Student interview minor themes, node frequency and course representation.

Theme	Code	Code Frequency	Course Representation
Theme 1: Diversity, Equity and Objectivity	There was little diversity among the composition of the student body	4	3
	Students encountered diversity through their practicum experience and through readings	2	2
	Different backgrounds were discussed but not necessarily different beliefs	1	1
	Students were encouraged to treat their own students equally regardless of background	1	1
	The instructor dealt with topics in an unbiased manner	1	1
	The instructor validated student ideas regardless of point of view	1	1
	Subtotal	10	
Theme 2: Professionalism, Standards (Performance Criteria), and Respect	Students wanted to meet teacher expectations in order to please her	2	1
	Student work was recognized and valued during internship experiences material and students' own beliefs	2	1
	Instructor treated students as professionals	1	1
	Students had the opportunity to teach a lesson in the practicum and demonstrate competency	1	1
	Students required to devise multiple ways to teach a subject	1	1
	The course set high expectations for students	1	1
	Standards were higher because they were graduate students	1	1
	Subtotal	9	
Theme 3: Miscellaneous	Course required little reading experiences were considered beneficial	5	1
	Readings reflected a one-sided political view	2	1
	The challenge of course assignments depended on student effort	2	1
	Instructor sharing own experiences in the classroom was helpful	1	1
	Some course material was outdated	1	1
	Engagement was encouraged because instructor would call on students randomly	1	1
	Subtotal	12	
	Total: 31		