



Designing effective internships: A mixed-methods exploration of the sociocultural aspects of intern satisfaction and development

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Abstract

Internships are widely promoted high-impact practices that can have positive impacts on students' academic and post-graduate success, yet how specific features facilitate these outcomes is understudied. Instead, internships are often studied in terms of mere participation, without recognizing that these experiences are complex pedagogic spaces shaped by professional cultures and decisions about instructional design. In this sequential mixed-methods study we use sociocultural learning theory to interpret data from online surveys (n=435) and focus groups (n=52) with students at five institutions. Stepwise linear regression analyses of demographic and programmatic variables associated with intern satisfaction, developmental value, and career adaptability indicated that first-generation status, gender, race and income level, and supervisor behaviors were significantly associated with satisfaction and development. Analyses of qualitative data revealed that features of positive (clear communication, availability, feedback) and negative (unavailability, inattention to learning) supervision impacted student experiences. These findings reveal that internships should be designed with careful attention to task scaffolding, student autonomy and supervisor assistance, depending on the professional context and situation. These results highlight the need for colleges and employers to design internships as mentored and culturally shaped learning spaces, provide supervisor training, and consider the cultural backgrounds of students when matching them to internships.

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Internships and other forms of work-based learning (WBL) are becoming one of the most influential ideas shaping research, policymaking, and educational practice in higher education in the early 21st century, due in large part to the growing pressure on postsecondary institutions to cultivate students' "employability" or the likelihood that they will be competitive in the labor market (Tomlinson & Holmes, 2016). In fact, some view internships as a "high-impact practice" (HIP) that all colleges and universities should mandate for graduation (Busteed & Auter, 2017) and strongly encourage students to pursue during their college experience (Kuh, 2008).

While the advocacy behind internships is supported by a growing body of research indicating that they are positively associated with students' post-graduate employment outcomes (Nunley et al., 2016), their career developmental value (McHugh, 2017), and psychosocial outcomes (Ocampo et al., 2020), it is also clear that the type and quality of internships varies considerably and that simply participating in an internship does not guarantee student success (Hora et al., 2021; O'Neill, 2010). The variation in the design and implementation of internships is unsurprising, given that in many cases their format and operations are mostly determined by employers, without the oversight and quality controls that govern on-campus learning spaces such as courses or new programs. Consequently, Sweitzer and King (2015) argue that "A pedagogy of internships calls upon the academy to ... recognize the internship as a legitimate, collaborative, and deliberately designed academic learning experience," (p.54) that demands careful attention to design and the processes of student learning and development.

The research and rhetoric surrounding internships reflects the "black box" problem, where the specific elements and/or processes of the internship that actually enhance student learning and development remain obscured.

Fortunately, promising lines of inquiry are investigating how aspects of internship programs such as supervisor quality (McHugh, 2017) and task design (D'abate et al., 2009; Rogers et al., 2021) influence student outcomes, but in many cases the research and rhetoric surrounding internships reflects the "black box" problem, where the specific elements and/or processes of the internship that actually enhance student learning and development remain obscured (McHugh, 2017; Silva et al., 2016).

There are three reasons why this state of affairs is problematic for the field of higher education. First, without evidence regarding how discrete programmatic features influence student experiences and outcomes, it is



difficult for faculty, career advisors, and campus leadership to assess and then improve internships on their campus. Second, as a conceptual problem of understanding processes of student learning and development, where prior work has established the critical role of institutional features and experiences such as faculty values and behaviors (Astin & Antonio, 2012) or an institutions' cultivation of cultural belonging (Museus et al., 2017), it is untenable to rely on a single metric (i.e., participation in an internship) as a precursor or even predictor of student learning, growth and development (Hora et al., 2021). Finally, with growing evidence that internships are pursued by only 30% of college students and may be inaccessible to many due to a lack of information, access, or resources, identifying those features which may disproportionately influence students of color and/or students attending Minority Serving Institutions (MSIs) is important (see Hora et al., 2022, Hora et al., 2021). Consequently, a critical question facing higher education in general, and the fields of career advising and student affairs in particular, is: What features of an internship experience are most associated with positive student experiences, and what are the processes whereby this learning occurs?

In this paper we build on our prior work in this area by using a sequential mixed-methods design to conduct an exploratory and descriptive study of these phenomena. The study first entailed examining survey (n=435) data from students at five institutions - one Historically Black College and University (HBCU), one Predominantly White Institution (PWI) technical college, and three PWI four-year regional comprehensive universities - to identify internship program features associated with interns' satisfaction, its developmental value for their academic and career goals, and students' career adaptability attributes. After a stepwise linear regression analysis confirmed prior research on the importance of supervisor support and quality, we then analyzed focus group (n=52) data using open and axial coding techniques to conduct a more fine-grained investigation of this critical aspect of the internship experience. To interpret our findings, we drew on the conceptual framework sociocultural learning to examine the processes of learning and development within the cultural space of an internship program (e.g., Guile & Young, 1998; Lave & Wenger, 1991), which revealed a diverse range of student accounts of the processes and quality of supervision, and how these dynamics were situated in specific situations and workplace contexts and cultures. In our discussion of these results, we consider how the data contribute to the literature and implications of the study for research, policymaking, and practice in higher education.

Background

The benefits of an internship, particularly to students' personal and professional development, are not guaranteed simply because an institution makes them available and/or mandatory, as student experiences can range from an abysmal summer spent making copies to transformational experiences that embody the best practices of experiential education (Hora et al., 2021, 2022; Perlin, 2012; O'Neill, 2010). In a growing recognition of the need to scrutinize specific features of internships, scholars have studied a variety of structural elements of internships including compensation (McHugh, 2017), task goal clarity (Beenen & Rousseau, 2010) and interns' autonomy at work (D'abate et al., 2009). In this section we briefly review the literature on the program elements included in our study – task goal clarity and autonomy, coordination with academic programs, and quality of supervision – followed by an overview of research on the relationship between internships and student development.

Influential programmatic elements of an internship experience

The nature of the tasks that student interns perform on the job has long been a focus of study in internship studies, with considerable concern over the prospects of interns' work to be menial and un-educational, if not exploitative and illegal (Chan et al., 2015; Perlin, 2012). Some researchers have also built upon work on job design in management and business, based on the notion that the characteristics and daily routines of a job can have considerable impact on their performance and satisfaction (Beenen & Rousseau, 2010; Rogers et al., 2021). In this vein, scholars have found that the clarity with which expectations for task performance (i.e., task goal clarity) are conveyed is associated with student satisfaction (Feldman & Weitz, 1990), especially for students who are newcomers to an organization and the world of work (Bauer et al., 2007).

Too much autonomy for some interns may in fact be detrimental to their learning and development.

Another aspect of an interns' work that has been extensively studied is the autonomy they are granted by supervisors regarding the discretion they have (or not) to complete their assigned tasks (McHugh, 2017). Prior research has demonstrated that the more autonomy interns are given in executing their tasks, the higher their reported workplace learning, career crystallization, and job satisfaction (Ramani & McHugh, 2019; Virtanen et al., 2014). However, other scholars have found no relationship between task autonomy and outcomes such as satisfaction, developmental value, and job pursuit intentions (D'abate et al., 2009; McHugh, 2017). Given insights from the learning sciences on the need for novices to have task autonomy slowly scaffolded from more to less oversight, these findings underscore the prospect that too much autonomy for some interns may in fact be detrimental to their learning and development (Lave & Wenger, 1991; Pea, 2004).

Another potentially important feature of internships is the relationship between an internship and students' academic programs. In fact, one of the primary claims of WBL programs is that students, being situated in "real-world" settings where they must address authentic problems of practice, benefit in both their academic progress and in their career development (O'Neill, 2010). However, there is often no guarantee that an intern's tasks will be related to their previous coursework, and it is not unheard of for interns to spend weeks engaged in work that is unrelated to their career aspirations (Perlin, 2012). While little empirical work exists on this topic, recent studies have found that students pursuing internships that are unrelated to their majors have more negative experiences than their counterparts in internships with a close major-internship fit (Zuo et al., 2020).

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One of the most extensively studied features of internship programs is that of supervision and mentoring. A considerable body of research has demonstrated that both supervisor mentoring (i.e., providing clear directions and feedback) and supervisor support (i.e., how well the supervisor cares about employee well-

being) are positively related to outcomes, including intern satisfaction, interns' commitment to internship sponsor, and a positive attitude toward the hosts' industry (D'abate, Youndt, & Wenzel, 2009; Liu, Xu, & Weitz, 2011). In a study of management student interns, McHugh (2017) found that supervisor support was especially important, as it was associated with higher perceived developmental value of the internship, and greater satisfaction and intent to pursue a job with the host organization. At the same time, an inattentive or even hostile supervisor can have a profoundly negative impact on an intern (Perlin, 2012).

Studies of internships would benefit from two key issues – a focus on specific programmatic features of internships that impact student outcomes, and attention to a range of potential outcomes of the experience that includes academic and career development.

While few studies on intern - supervisor dynamics explicitly address the issues of racial identity and its possible impact on student experiences, a study of South African clinical psychology interns found that mixed-race dyads (i.e., a white supervisor and a Black intern or vice versa) reported more negative experiences than same race dyads, suggesting that race and ethnicity are influential factors to consider (Hendricks & Cartwright, 2018). Detailed insights into student-supervisor dynamics, however, are uncommon in the internship literature, as most studies rely on surveys that necessarily cannot capture fine-grained details about student experiences, which is one reason why we elected to use a qualitative approach to examine in detail one aspect of the findings from statistical analyses of survey data.

Finally, while many internship scholars examine how programmatic features such as supervision are associated with academic or labor market outcomes, a growing number of studies are focusing on the impacts of internships on students' psychological states as well as their perceptions about the quality and value of the experience. For example, researchers are increasingly interested in the impacts of an internship on students' real-world knowledge, skills and behaviors, and the extent to which the experience has positive impacts on their own career and academic development (e.g., Nghia & Duyen, 2019). Another outcome of interest pertains to psychological states that also measure the individual's engagement with the social world (i.e., psychosocial factors). An example of this focus is evident in a study of undergraduate hotel and restaurant management students in China that examined career adaptability (Ocampo et al., 2020), which found that internships led to an increase in students' psychological resources for adapting to change and/or disruption in their own career plans.

Conceptual framework: Intern learning as a sociocultural process

In our view, studies of internships would benefit from two key issues – a focus on specific programmatic features (e.g., supervision and mentoring) of internships that impact student outcomes, and attention to a range of potential outcomes of the experience that includes academic and career development. Besides the aforementioned studies that hone in on specific design features of internships, scholars are also attempting to open up the black box of internships by developing process models that examine the specific mechanisms whereby internships are linked to student outcomes and development.

In an especially promising approach, Sweitzer and King (2013) emphasize the stages that a student goes through in an internship —anticipation, exploration, competence and culmination—with the focus on how students construct meaning from the experience, especially as they are introduced to new (and potentially jarring) sociocultural and professional contexts. This focus on the intersecting elements of culture, activity, task performance, and mentoring has been one of the most studied phenomena in the learning sciences over the last few decades through the use of sociocultural learning theory (e.g., Chi & Wylie, 2014; Cobb & Bowers, 1999; Lave, 1977). Sociocultural views of learning and development focus on the social and material setting of activity, and one influential application that explicitly attends to WBL is that of Lave and Wenger (1991), who famously studied learning in apprenticeships and how novices and experts co-participate in complex work activities (i.e., legitimate peripheral participation).

In conducting our own analysis, we were first and foremost interested in uncovering the influential programmatic elements of the internship that influenced students in our survey data, and when the quantitative analysis highlighted the importance of supervision and mentoring, our attention shifted to the qualitative evidence where students spoke in-depth about experiences with their supervisors. According to sociocultural learning theory, the role of a mentor, instructor, or supervisor is a critical part of the learning process, as they provide feedback, exemplary behaviors, and direct instruction - hence our focus on supervisory behaviors in this study. In their highlighting issues of intern-supervisor communication, task autonomy, and supervisor proximity, the students in our study described the internship process in ways that were closely aligned with the sociocultural account, and in the interpretation and discussion of our data, we present a new conceptual framework that emphasizes the crucial role that supervisors play in introducing students to new professional cultures, practices, and communities.

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Methods

The research design of this study is a sequential mixed methods approach, which involves the analysis of one dataset with findings informing the subsequent analysis of the other (Creswell, 2014; Teddlie & Tashakkori, 2010). In our case, statistical analyses of survey data answered the first research question: (RQ1) What features of an internship are most associated with positive student experiences? With results highlighting the importance of supervision and mentoring, we then analyzed student focus group data to answer the second question: (RQ2) What are the processes whereby an interns' supervision and mentoring influence student experiences? Consequently, in this study we use analyses of the survey data to identify significant patterns in our survey data at a coarsely-grained level, followed by qualitative analyses that provide more fine-grained accounts of a single programmatic feature on student experiences.

Data collection procedures

The data for our study were collected at five institutions that reflected both institutional and geographic diversity, as our goal was to document internship experiences at a variety of institution types and locations across the U.S. These institutions included one technical college in Wisconsin (Institution A), one Historically Black College or University (HBCU) in South Carolina (Institution B), and three comprehensive universities in Wisconsin (Institutions C and D) and Maryland (Institution E). While these five institutions do not reflect the entire spectrum of institutional and geographic diversity in U.S. higher education, they did satisfy our goal of capturing student experiences outside of elite Predominantly White Institutions (PWIs) that are sometimes the sole subject of research on college internships.

The sampling frame for the study included students in the second half of their degree programs (Institution A), or in their junior and senior years (Institutions B, C, D, and E), in order to increase the prospects that students had opportunities to take an internship. We also excluded from the sampling frame students from programs with a required clinical practicum (e.g., teacher education or nursing practicums) or apprenticeship programs. Due to resource constraints, we capped the size of the study sample at each institution at 1,250 students using random stratified sampling method based on two strata—gender and race – as we sought a study sample that was demographically similar to each institution’s larger student population. Given that Institution B only had 885 juniors and seniors in total, we used the entire sample population. An analysis of possible non-response bias was conducted based on race and gender using chi-square tests, and the study sample was representative of the study population based on race and gender.

Survey instrument and administration

The procedure for administering the online survey began with a letter and cash incentive (\$5) mailed to 5,885 students between the Spring of 2018 and 2019. A total of 1,548 students completed the survey for a response rate of 26.30%. The current study focuses on the 488 (31.52%) students who reported an internship experience, and among whom 435 students provided full demographic information for further data analyses. Table 1 presents demographic information of the 435 students included in this analysis.

In the survey, respondents were directed to think of an internship experience in the past 12 months when answering the questions in the survey, which a combination of existing scales (e.g., career adaptability, supervisor support) and newly created items. The instrument was included in a pilot study and subsequently revised for clarity and to enhance scale reliability (see Hora et al., 2021).

Dependent variables. In our study, we included three dependent variables that are commonly used in the internship literature to capture aspects of student professional growth and development. First, *intern satisfaction* (McHugh, 2017) was measured by one item asking about the interns’ level of satisfaction with their internship using a five-point Likert scale ranging from one (not at all satisfied) to five (extremely satisfied). The second dependent variable was the *perceived developmental value of internships*, which was measured by a three-item scale (Beenen & Rousseau, 2010; McHugh, 2017) that captures the degree to which respondents considered their internship to be valuable for their career development and useful for clarifying their career objectives. Study participants rated the three questions using a five-point Likert scale

ranging from one (not at all) to five (a great deal), with responses indicating a Cronbach's alpha of 0.82. The third outcome measure was *career adaptability*, a psychosocial construct that refers to an individuals' resources for handling current and future career challenges (Porfeli & Savickas, 2012). Career adaptability is measured via the 24-item Career Adapt-Abilities Inventory (CAAS) that included the four subscales of concern (i.e., extent to which employees are future-oriented), control (i.e., extent to which employees take responsibility for their futures), curiosity, and confidence. The Cronbach's alphas of the four subscales ranged from 0.85 to 0.89. For this analysis, we used a single measure for career adaptability as a global measure, given the highly inter-correlated nature of the subscales, which is an approach commonly taken by scholars of career adaptability in experiential learning contexts (e.g., Pan et al., 2018).

Independent variables. Five independent variables were included in the survey and subsequent analyses, each measured with a five-point Likert scale. *Supervisor support* (McHugh, 2017) is a four-item scale used to assess the extent to which internship supervisors care about interns' well-being and satisfaction at work, and responses indicated a Cronbach's alpha of .90. *Supervisor mentoring* (McHugh, 2017) is a five-item scale that measures the quality of supervisors' mentoring of interns with specific strategies for achieving career goals, and responses indicated a Cronbach's alpha of 0.83. *Goal clarity* refers to the extent to which a supervisor provides clear objectives and explanations of the interns' tasks and is measured by a two-item scale, with a Cronbach's alpha of 0.89 (Beenen & Rousseau, 2010; McHugh, 2017). *Autonomy* (McHugh 2017) is a two-item scale which measures the degree of flexibility and freedom that an intern has in how to complete work during the internship and included two questions with results indicating a Cronbach's alpha of 0.76. Finally, to measure the *relatedness between students' academic program and internships*, one item asks subjects to indicate the degree to which their internship was related to their academic program.

Control variables. Several demographic variables were included in the survey and used in this analysis as control variables: gender (female, male), age, race (i.e., Asian, Latino, Black, and White), first-generation college student status, and personal annual income (measured by asking for estimates of annual income at six levels). In addition, features of students' institutions such as institution type and aspects of their internship experience (i.e., compensation and duration) were included as control variables.

Focus groups and interviews

After completing the survey, the students were asked if they were willing to participate in a focus group. Focus groups were included in the study due to their practicality (i.e., ease of scheduling multiple student meetings) but especially the inherently social nature of the data collected, where interactions between and among participants could spark new ideas and reflections (Cyr, 2017; Onwuegbuzie et al., 2009).

A total of 52 students participated in focus groups, for which attendees received \$20. Most focus groups included two to four students, though no-shows resulted in one-person interviews in some cases ($n = 7$). Focus group sessions lasted about one hour and were moderated by one to two researchers who used a semi-structured protocol that included questions about students' background, motivations for pursuing an internship, the type of mentorship they received in their internship, and so on.

Data analyses

Statistical analyses of survey data

The quantitative analysis was conducted using R statistical analysis software (R Core Team, 2018). Prior to analyzing the data, we used a multiple imputation (MI) approach to account for missing values for three variables (i.e., internship duration per week, annual income, and autonomy) that had missing values, with the missing rate ranging from 0.22% to 8.39%. Therefore, we used a MI approach rather than a listwise deletion procedure to avoid losing valuable information and reducing analysis power (Cheema, 2014), and five imputations were conducted that led to the dataset used for the regression analyses.

We conducted a two-step linear regression analysis to examine the amount of variance in our three dependent variables of interest: students' satisfaction, developmental value, and career adaptability. For the models developed to analyze the relationship between student attributes and internship program features and the three outcome measures, a block of student characteristics was entered as control variables in the first model (i.e., age, gender, race, first-generation status, annual income, and institution type). Then, internship program-specific characteristics (i.e., whether internships were required, compensation, duration, supervisor support, supervisor mentoring, goal clarity, autonomy, and relationship to academics). This approach allowed us to report the level of significance for each individual independent variable and to determine the change in R^2 created by the second block of variables. Finally, we conducted an F test to evaluate whether there was a significant improvement of the second model, compared with the first model, after adding the variables of program features.

Focus group analysis

Next, based on the finding that supervision and mentoring were significantly associated with students' reported internship outcomes, we decided to conduct an in-depth, inductive analysis of focus group transcripts using MaxQDA qualitative data analysis software to address our second research question. The first step involved two researchers independently engaging in inductive, open coding of two transcripts, noting recurrent phrases and observations related to supervision, mentoring, or other relationships and dynamics with academic or job site supervisors (Corbin & Strauss, 2014; Ryan & Bernard, 2003). The analysts then met to discuss and then reconcile discrepancies in their initial code list, which included codes such as "hands-off supervision" and "clear guidance provided to intern," and a final code list was developed based on both analysts' interpretation of the key themes in the data. Then, one analyst applied the code list to the entire corpus of data. Then, both analysts reviewed the text assigned to these codes, and engaged in a second and final round of axial coding, which focused on discerning conceptual similarities and/or clustering between and among themes (Saldana, 2015). After independently reviewing the data, both analysts met once more and discussed the findings, and using the raw data as a conceptual anchor, drew upon their knowledge of the internship literature as well as sociocultural learning theory to identify the five categories of intern-supervisor relations that are reported in this paper.

Last, we address the role of the qualitative analysts' positionality with respect to the analysis. The first author (Hora) is an Asian American male with academic training in the learning sciences and cultural anthropology,

and brings a strong focus on documenting the cognitive, cultural, and contextual factors that impact social action to his work. The second author (Wolfram) is a white male with academic training in linguistic anthropology who also brings a grounding in sociocultural theory to the work. We recognize that our epistemologies and life experiences inform our understandings of the world and our data, and thus cannot be separated from our researcher identities nor our interpretations of the data reported in this paper.

Limitations

Some limitations to the study should be considered when interpreting the data reported in the next section of this paper. First, as a cross-sectional study, it is not possible to draw causal conclusions about the relationship between internship program structure and outcomes, and future researchers could conduct longitudinal and experimental studies to better understand the potential causal relationships between and among these variables. This is especially the case given the lack of pretest measures for students exhibiting high rates of satisfaction, developmental value or experiences with supervisors, who may have exhibited or reported these behaviors without an internship. Second, in this study we used a single item for the measure of internship satisfaction, and while this is not an uncommon approach in the research literature (e.g., McHugh, 2017), it is preferable to develop multi-item scales for constructs like satisfaction. Finally, the analysis does not delve deeply into issues of culture or racial identity, which are aspects of students’ experiences that are well-known to influence their interactions with peers, faculty, and institutions. This is due to our focus on first documenting the influential programmatic features among a diverse sample of students, which will then inform future work that will examine how these issues, and the potential role of cultural belonging and workplace discrimination in internships, unfolds for students in HBCUs and Hispanic Serving Institutions.

Results

RQ1: What features of an internship are most associated with positive student experiences?

The data reported in Table 1 provide insights into characteristics of interns and structural features of the internship programs as reported by students in the study sample. For instance, the student interns in our sample were 68% female, 62% continuing generation, and 25% majoring in education and health services fields. With respect to their internship programs, the average duration of an internship was approximately 16 weeks, and respondents rated their supervisor support as (M = 4.25, SD = 0.84) which indicates that students felt their supervisors exhibited care and respect for their work “quite a bit.”

Table 1. Descriptive statistics of student characteristics and internship program features

Student characteristics and internship program features		Survey		Interview	
		n=435	%	n=52	%
Gender	Female	296	0.68	32	.62
	Male	139	0.32	20	.38
Race	Asian or Asian-American	25	0.06	3	.06

Student characteristics and internship program features		Survey		Interview	
		n=435	%	n=52	%
	Black or African-American	105	0.24	17	.33
	Hispanic or Latino	25	0.06	4	.08
	White or Caucasian	280	0.64	27	.52
First-generation status	Continuing-generation students	270	0.62	32	.62
	First-generation students	165	0.38	20	.39
Institution types	4_year_comprehensive universities	262	0.60	33	.64
	HBCU	78	0.18	12	.23
	Technical colleges	95	0.22	7	.14
Industry	Agriculture	13	0.03	2	.04
	Construction	12	0.03	1	.02
	Education and Health Services	108	0.25	14	.27
	Financial Activities	37	0.09	5	.10
	Information	35	0.08	5	.10
	Leisure and Hospitality	39	0.09	0	.00
	Manufacturing	24	0.06	3	.06
	Other Services	71	0.16	9	.18
	Professional and Business Services	60	0.14	10	.19
	Public Administration	20	0.05	3	.06
	Retail Trade	16	0.04	0	.00
	Internship payment	Paid	280	0.64	34
Unpaid		155	0.36	18	.35
Internship requirement	Not required	211	0.49	31	.60
	Required	224	0.52	19	.37
Annual income (6 levels)	0 ~ \$2,999	77	0.18	13	.25
	\$3,000 ~ \$7,999	95	0.22	11	.21

	\$8,000 ~ \$12,999	98	0.23	16	.31
	\$13,000 ~ \$17,999	54	0.12	5	.10
	\$18,000 ~ \$22,999	35	0.08	3	.06
	above \$23,000	76	0.18	2	.04
		Mean		SD	
Age		25.49	7.14	27.94	8.34
Annual income		3.24	1.70	2.63	1.36
Internship duration (in weeks)		15.97	10.88	14.92	10.21
Supervisor support		4.25	0.84	4.27	0.76
Mentoring		3.38	0.86	3.47	0.83
Goal/task clarity		3.87	0.92	3.86	0.93
Autonomy		4.01	0.93	4.09	0.93
Academic relatedness		3.99	1.03	4.02	1.08
Internship satisfaction		4.00	0.96	3.87	1.00
Developmental values		4.11	0.96	4.23	0.72
Career Adaptability (total)		3.80	0.63	3.84	0.64

Table 2 includes the correlations among key continuous variables that are included in the analysis. These results suggest that program features (i.e., supervisor support and mentoring, goal clarity, autonomy, academic relatedness) are significantly associated with each other as well as with the outcome measures (i.e., satisfaction, developmental value, and career adaptability) with coefficients ranging from .12 to .60. This indicated a low risk of multicollinearity (Dohoo et al., 1997), and tests of variance inflation factor indicated that multicollinearity is not a concern with VIF scores ranging from 1.03 to 1.55 (Vatcheva et al., 2016).

Table 2. Correlations among internship program features (n = 435)

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Age												
2. Annual income ^a	.40***											
3. Internship payment ^b	-.11*	.00										
4. Internship requirement ^c	.15**	.14**	-.06									
5. Internship Duration	-.03	.07	.06	.03								

Variable	1	2	3	4	5	6	7	8	9	10	11	12
6. Supervisor support	.04	.01	-.06	.09	.00							
7. Mentoring	-.14**	-.01	-.01	.08	.04	.64***						
8. Goal clarity	.06	.01	-.10*	.03	.04	.60***	.48***					
9. Autonomy	.01	.06	-.05	.06	.12*	.43***	.42***	.26***				
10. Academic relatedness	.10*	.04	-.10	-.05	.02	.21***	.13**	.28***	.14**			
11. Satisfaction	.02	.12*	-.03	.04	.07	.64***	.56***	.59***	.34***	.36***		
12. Developmental values	-.02	-.04	-.01	.02	.12*	.52***	.52***	.49***	.32***	.47***	.65***	
13. Career adaptability	.06	.16**	-.02	.03	-.03	.24***	.25***	.21***	.13**	.12*	.20***	.26***

Note. a. Family income includes six levels, namely, 0 ~ \$2,999 = 1; \$3,000 ~ \$7,999 = 2; \$8,000 ~ \$12,999 = 3; \$13,000 ~ \$17,999 = 4; \$18,000 ~ \$22,999 = 5; above \$23,000 = 6. b. Internship payment: unpaid = 1, paid = 2. c. Internship requirement: not required = 1, required = 2.
*p < .05, **p < .01, ***p < .001

Table 3 presents the results of linear regression analyses. With respect to satisfaction, only annual income was a significant control variable, and student characteristics only explained a very small percentage of the variation in satisfaction, with adjusted $R^2 = .03$. Variables that were significant (and positive) predictors of internship satisfaction included supervisor support ($\beta = .32, p < .001$), mentoring ($\beta = .20, p < .001$), task goal clarity ($\beta = .24, p < .001$), and relation to academics ($\beta = .20, p < .001$). Model 2 explains 51% more of the variation in satisfaction, with adjusted $R^2 = .54$. These results suggest that supervision support and mentoring, task goal clarity, and relation to academics are important factors associated with interns' satisfaction (see Table 3). Overall, after adding the program feature variables in Model 2, the satisfaction model was significantly improved, with $F(8, 438) = 59.81, p = 0.01$.

Table 3. Results of hierarchical regression analysis for internship satisfaction and developmental value (n = 438)						
	Satisfaction		Developmental Value		Career Adaptability	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Step 1: Students characteristics						
Age	-.03	-.04	-.04	-.02	-.01	-.00
Gender (reference group: female)						
Male students	-.19	-.10	-.26*	-.20*	.14	.16
Race (reference group: Black or African-American)						
Race_Asian	-.21	-.03	-.17	.04	-.15	-.10
Race_Latino	.01	.06	.18	.26	-.28	-.26
Race_White	-.12	.12	-.02	-.21	-.41*	-.32
First-generation status (reference group: continuing-generation students)						
First-generation students	.12	.02	.00	-.11	.36***	.33***

	Satisfaction		Developmental Value		Career Adaptability	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Institution type (reference group: 4-year comprehensive universities)						
HBCUs	.01	-.02	.12	.24	.01	-.01
Technical colleges	-.24	-.10	-.20*	-.16	.00	.07
Annual income	.11***	.08***	.07	.04	.11**	.10**
Adjusted R ²	.03		.01		.07	
Step 2: Internship Program features						
Internship required (reference group: Not required)	-.01		.02		-.04	
Internship being unpaid (reference group: paid)	-.10		-.13		-.04	
Internship duration (in weeks)		.01		.10*		-.02
Supervisor support		.32***		.17**		.11
Supervisor mentoring		.20***		.26***		.12
Goal clarity		.24***		.13**		.04
Autonomy		.01		.03		.00
Academic relatedness		.20***		.38***		.06
Adjusted R ²		.54		.49		.12
Δ Adjusted R ²		.51		.48		.05
F test (Model 1 vs Model 2)		59.81*		50.79**		3.70**

Note. Income: six levels (0 ~ \$2,999 = 1; \$3,000 ~ \$7,999 = 2; \$8,000 ~ \$12,999 = 3; \$13,000 ~ \$17,999 = 4; \$18,000 ~ \$22,999 = 5; above \$23,000 ~ = 6). *p < 0.05, **p < 0.01, ***p < 0.001

Regarding the developmental value of internships, results indicated that gender was a significant control variable. However, student characteristics only explained a small percentage of the variation (1%, adjusted $R^2 = .01$) in this outcome. When program features were added to this model in Step 2, internship duration per week ($\beta = .09.10097, p = .02$), supervisor support ($\beta = .17, p = .001$), supervisor mentoring ($\beta = .26, p < .001$), goal clarity ($\beta = .13, p = .004$), and relation between internship and academics ($\beta = .38, p < .001$) significantly predicted students' developmental value, and all the variables explained 49% of the variation in developmental values, adjusted $R^2 = .49$. The F test showed that there was a significant improvement of the second model after adding program feature variables, with $F(8, 438) = 50.79, p = .006$.

With respect to career adaptability, white students, first-generation students, and income were three significant control variables. However, student characteristics explained a small percentage of the variation in satisfaction, with adjusted $R^2 = .07$. After adding the program feature variables, no program features were significantly associated with career adaptability. Model 2 explains 12% of the variation in career adaptability, with $F(8, 438) = 3.70, p = .008$.

The data indicate that supervisor support, mentoring, and goal clarity were critical factors associated with interns' internship outcomes, especially in terms of satisfaction and perceived developmental value. The close relationship between interns' academic learning and internship experience also proved to be a significant factor associated with satisfaction and developmental value. Given these findings, and prior work highlighting the importance of intern supervision (e.g., McHugh, 2017) and the central role of mentor-guided learning in experiential education, we then turned to a closer analysis of supervision and mentoring in our qualitative data.

RQ2: What are the processes whereby an interns' supervision and mentoring influence student experiences?

Analysis of the qualitative data led to the identification of five key elements of intern-supervisor relations.

Critical facets of intern-supervisor relations

The inductive analyses of text led to the identification of 25 distinct themes related to the quality and characteristics of internship supervision. A closer analysis of these data then revealed five higher-order categories that refer to key features of intern-supervisor interactions and relations, which add nuance and some insights that contradict the statistical analyses reported above. In Table 4 we report 15 themes (reported by at least five students), grouped under the five categories that characterize intern-supervisor relations.

Table 4. Description of themes related to supervision reported by students (n=52)	
Category of intern-supervisor relations	Specific themes in category (# of students reporting theme)
<i>Communication of tasks</i>	
Clear guidance (9)	Supervisor provides clear guidance and expectations
High expectations (7)	Supervisor has high expectations for intern performance
<i>Intern autonomy in workplace (+ and -)</i>	
Provides autonomy - positive (16)	Supervisor gives intern independence to manage work - intern views in positive terms
Provides autonomy - negative (9)	Supervisor gives intern independence to manage work, but without adequate guidance - intern views in negative terms
<i>Proximity and availability of supervisor (+ and -)</i>	
Availability for questions (14)	Supervisor is available to answer questions when needed
Hands-off supervision (13)	Intern expected to ask for help when needed, with supervisor rarely present
Regular check-ins (10)	Supervisor regularly checks on intern on how work is progressing

Category of intern-supervisor relations	Specific themes in category (# of students reporting theme)
Supervisor is elsewhere (8)	Supervisor works at location away from the intern
<i>Attention to intern learning</i>	
Scaffolded supervision (8)	More supervision offered during initial onboarding, with interns gradually assuming independence later
Hands-on learning (8)	Supervisor provides opportunities for intern to learn by doing
Internship as learning (8)	Supervisor understands that internship is learning experience and exhibits patience in assigning tasks
Supportive environment (5)	Supervisor helps foster a supportive work environment, including forging of interpersonal connection
Close and focused supervision of risk-associated tasks (5)	Situations where interns receive a high degree of supervision because there is a degree of risk associated with the task, such a legal or safety risk
<i>Provision of feedback (+ and -)</i>	
Provide feedback (9)	Supervisor provides feedback on work and performance
Limited feedback (6)	Supervisor provides little feedback with intern unsure of their progress

These five categories can be interpreted as a process of supervision, beginning with the communication of tasks and ending with the provision of feedback on the interns’ performance, all grounded in specific situations and contexts.

Communication of tasks. Nine respondents spoke about the expectations that were provided by their internship supervisors, highlighting the importance of supervisors providing guidance which is clearly and explicitly communicated. This could be in the form of establishing clear instructions for how to complete a task or setting clear expectations for project outcomes. For example, one respondent described how her supervisor had given her a tour of the fire inspection firm where she was interning, and clearly described the specific tasks she would be responsible for, such as revising or “cleaning up” architectural drawings of fire safety systems. This intern also benefited from “feedback every day, good and bad” which led to her feeling that it was an overall positive learning and professional experience.

In addition, seven interns said that supervisors communicated that they had high expectations for the quality of their work—describing that the level of work and expectations for the quality of the finished product were similar to “anyone else on staff.” In these cases, the clear communication of tasks and performance expectations created a workplace environment where interns were provided a highly structured space for learning.

Intern autonomy in workplace (+ and -). In addition to the importance of clear communication from supervisors, the most commonly discussed aspect of internship supervision included the level of autonomy and independence afforded to the intern by their supervisor. Sixteen respondents spoke positively about this autonomy, where supervisors assigned tasks and gave space for the intern to work through projects on their own, while also being available for guidance when needed. As one respondent described, “[A] lot of it was independent, and if you had questions you could go to them, but they were really cool about giving you your space and just letting you work.”

In contrast, nine respondents spoke about the autonomy and independence provided by their supervisor as a negative feature of their internship. For these interns, the autonomy afforded to them was often described in terms of an overall lack of supervision and/or guidance. For example, one student described their experience with workplace autonomy at an environmental protection firm as positive with respect to the standard operating procedures of field and lab work. However, for their individual project he stated that, “I was completely on my own” and initially struggled with his poorly laid out duties for the summer. Overall, this finding indicates that clear communication of tasks and expectations is an important feature of effective supervision—perhaps even more so in internships that require a certain degree of autonomy.

Proximity and availability of supervisor to the intern (+ and -). The students in our study also emphasized the importance of supervisors being proximate and available in case questions arose about their work. Fourteen respondents spoke about their supervisor being available to answer questions when needed, or their supervisor connecting them with colleagues to help answer questions, as something that made their internship a positive learning experience. As one respondent explained, “If I had questions, I could always go to them... I can’t really think of a situation where I ever had a question that wasn’t answered within an hour.”

In contrast, thirteen interns described their supervisor’s “hands-off approach” to supervision in negative terms. In some cases, this was a somewhat alarming experience. In one instance, the student received “no guidance” from their supervisor and was “basically dropped in the deep end” of the work and expected to thrive. In other iterations of this hands-off approach, the intern was expected to request additional tasks when other work was completed. One respondent described this approach, explaining, “They just kind of gave you your tasks and you kind of had to say, ‘Hey, I’m done with this. What else can I do?’” which left some interns desiring more regular and structured interactions with their supervisor, especially in cases where the workplace was a high-pressure environment. Consequently, some students appreciated supervisors who would check in regularly with them to see how work was progressing. Ten respondents spoke about checking in with their supervisor on a regular basis. As one described, “every two weeks we would meet up and we would debrief and see where we were [at] and see how we were doing and if it was overwhelming, or if we thought that we needed to be doing more.”

Overall, interns appreciated supervisors who were proximately located in the work environment, either physically or figuratively, and who were not only available to answer questions but would check in regularly to monitor the progress of their work.

Attention to intern learning. The concept of “learning” also came up in focus groups, with five interns emphasizing the importance of supervisors cultivating a supportive environment where they acknowledged that interns were still learners. As part of this learning process, eight interns described intensive supervision and training offered at the beginning of the internship, followed by a gradual fading-out of such intense supervision, with less oversight as the intern learned and mastered their tasks (i.e., a scaffolded pedagogic structure). For example, after explaining a hands-on approach to supervision in the initial period of their internship, a respondent added, “But after time went on and I got comfortable, I’d come in and I’d work, and they’d only check in once or twice a day with all of us.”

Five interns also mentioned and appreciated that they benefited from very close and focused supervision when engaging in new or challenging tasks (e.g., operating dangerous equipment, handling fragile artifacts at an archeological dig), especially at the start of the internship when they were new to the work task, and especially tasks associated with some potential risk (e.g., legal, financial, or health and safety risks). As one intern at a financial firm explained, “They didn’t let us go in there and ruin someone’s financial future.” In such cases where there were risks related to the work, interns received close and ongoing supervision until they developed the competency to mitigate the risk.

Eight respondents also spoke about the value of opportunities for hands-on learning. In these cases, the supervisor would provide opportunities to learn by performing tasks that were similar to those of other employees, while providing support and feedback throughout the process. One student described their experience learning from senior colleagues stating, “You would watch them do [it] initially, and then they would have you do it on your own.”

Provision of feedback (+ and -). Finally, nine students in our study reported the importance of receiving regular feedback on their performance from their supervisors. The frequency and quality of feedback varied by respondent – feedback might have been offered after the completion of a specific task/project or might have been provided as part of a mid-internship assessment or review. For some students, feedback was critical due to the high-stakes nature of the work and because it facilitated their learning new skills and decision-making strategies.

In contrast, six interns stated that their supervisors provided only limited feedback, which was frustrating for them because they felt confused and uncertain, both about how they had progressed over the duration of the internship, and whether they could improve their performance. For one student, who worked at a multi-national firm where his supervisor was several hundred miles away, the lack of feedback and general communication was problematic given the ambiguity of assigned tasks. Unfortunately, in some situations, interns are operating in an overly unstructured pedagogic environment, where employers have paid little attention to the learning and professional development of their student interns.

Discussion

Our goal in this paper was to complicate discussions about college internships as a venue for student growth, development, and learning, where mere participation does not guarantee these outcomes. The data from our sequential mixed-methods study not only demonstrate the limitations of a “black box” approach to internships, but the results also highlight the critical role that intern supervision and mentoring play in shaping student experiences throughout the internship experience. In the remainder of this paper, we highlight key findings from our study and how a sociocultural interpretation of the data contributes to the literature, along with implications of the results for research, policymaking, and educational practice.

Contributions to the literature on internship design, operations, and outcomes

The data reported in this paper contribute new evidence on the structural features that are closely associated with student outcomes, as well as new insights into the nature of supervision and learning within the pedagogic structure of an internship, highlighting areas that faculty, career services staff, and employers may want to pay especially close attention to during the design phase of an internship program.

Insights into supervision and mentoring

Results showed that both supervisor support and mentoring are positively related to interns' satisfaction with their programs and the perceived developmental value of the internship to their future careers. As both variables were significantly associated with student satisfaction and their developmental value, the results confirm prior research that demonstrates the importance of effective job-site supervision and mentoring on interns' satisfaction and professional development (D'abate et al., 2009; Liu et al., 2011; Mensah et al., 2020), but the data do indicate a discrepancy in how students perceive the quality of their job-site supervision and mentoring with latter being rated higher ($M = 4.25$, $SD = 0.84$) than the former ($M = 3.38$, $SD = 0.86$). Scholars such as McHugh (2017) have also found that students assigned a higher rating for supervisor support than for mentoring, and future research should examine the dynamics between these two facets of supervision in greater detail. Ultimately, these results underscore the vital nature of high-quality job-site supervision for effective internships.

Insights into nature of tasks and autonomy

The data also contribute to the field's understanding of two understudied design features of internships – the nature of the tasks students engage in, and the autonomy they are (or are not) provided to do their work. Task goal clarity was found to be positively associated with interns' satisfaction and developmental value, which confirms previous research (D'abate et al., 2009), but our results vary from McHugh's (2017) in that it indicates a non-significant relationship between goal clarity and satisfaction, and a negative relationship between goal clarity and developmental value for students. The different results between our study and McHugh's (2017) may be due to different study samples and institution types, but the degree to which workplace tasks are designed and then communicated with more (or less) clarity is another feature of internships that merits additional research.

Further, while some studies have found a positive relationship between intern autonomy and learning outcomes of internships (e.g., Virtanen et al., 2014), our study is consistent with McHugh's (2017) which found that autonomy was not associated with either intern satisfaction or developmental value. It is possible that different academic or career fields have different expectations about the autonomy of interns, which may lead to these disparate findings. Another explanation for these conflicting findings, however, is that existing models of intern task performance that assume autonomy is a universally positive and beneficial aspect of the internship experience, are inadequate to understand or explain the nature of task autonomy.

The analysis of the focus group data indicates that differences in how students experienced and appreciated high levels of work autonomy are related to the quality of the intern-supervisor relationship. Thus, for interns

who had supportive relationships with their supervisors—who were proximately available to provide advice and answer questions—autonomy over work-tasks or projects was a welcome feature of their internship, associated with a sense of ownership over the work. In contrast, for interns whose supervisors had a “hands-off approach,” or supervisors who were “stressed,” “too busy,” or otherwise unavailable, student participants tended to equate increased autonomy over work tasks with what they experienced as a lack of supervision. Thus, autonomy in some cases may be desirable while in others it may not.

Student development within internships as supervisor-guided sociocultural learning

Supervisors who recognize that student learning was the primary goal provided intensive training and focused supervision for tasks, and gradually faded their engagement as their interns were able to exercise more autonomy over tasks.

The qualitative analyses of supervision and mentoring shed light on the sociocultural aspects of internship design and student experiences, raising issues about culture, learning, and supervisor-intern dynamics. In addition, we found that a sociocultural perspective adds important details to prior efforts to develop processual frameworks about the internship experience itself. While existing frameworks do highlight the stages that students experience as they enter a new workplace (Sweitzer & King, 2013), such models tend to downplay processes which are ongoing, dynamic, and cumulative, such as the intern-supervisor relationship.

One of the key insights from our data is the importance of supervisors’ navigating the tension between being highly communicative and attentive on one hand, while also providing autonomy to the student on the other hand. While workplace autonomy is critical so that students can try out new skills, too much autonomy with projects and tasks can mask a “hands off approach,” characterized by a lack of supervision or clear guidance. In contrast, supervisors who recognize that student learning was the primary goal of the relationship provided intensive training and focused supervision for new and challenging tasks, and gradually faded their engagement as their interns were able to exercise more autonomy over tasks. This type of close and attentive supervision is especially important with respect to the interns’ introduction into a new, and potentially intimidating workplace and professional culture, where having an experienced mentor at one’s side can make the experience a welcoming and positive one.

A sociocultural approach requires a new way of thinking about activity in general—and of mentor-guided activity in particular—in which activity is not solely about an intern performing (and learning) a task (e.g., digging for artifacts in an archeological dig), but instead activity is conceptualized as a complex system that implicates features of the task (e.g., tools, geography, the weather) and the sociocultural context (e.g., co-workers, norms for behavior, and tool use) of the activity itself. In particular, the role of the expert or mentor in these situations is not to “throw the intern into the deep end,” as one of our student participants reported, but it is instead to gradually introduce novices to the norms, tasks, and routines of a workplace or profession (Lave & Wenger, 1991). This process first takes place on the periphery of a task (e.g., to clean tools for an archeological dig) and then over time, with the supervisor modeling desirable techniques and ensuring that the intern is performing at an acceptable level, the intern takes on more and more autonomy, perhaps eventually even being responsible for excavating an entire section of a dig.

The categories of supervisor-intern relations identified in our data—communication of tasks, level of intern autonomy, proximity and availability of supervisor, attention to intern learning, and provision of feedback—align with this sociocultural perspective, and especially with the process identified by the concept of *legitimate peripheral participation*, which describes the value of having a mentor introduce newcomers to a key workplace task, first as a partial or provisional member of the group, but over time developing enough expertise to become a legitimate participant (e.g., Allen et al., 2017). Further, a sociocultural perspective problematizes how work itself is structured, by viewing it not as an “innocent” or “naturally organized” venue for activity, but instead as a “pedagogic structure embedded within workplace activity” (Guile & Young, 1998, p. 186), which has either been designed with care and attention, or not.

But a sociocultural perspective on internship learning and development that emphasizes legitimate peripheral participation does not reflect a one-size-fits-all model that should be adopted by all internship programs. Instead, the degree to which close supervision (with minimal legitimate participation in tasks) is maintained should vary depending on the experience level of the intern and the nature of the task situation. Essentially, the less competence an intern has with the knowledge and practices of the workplace, the more they will benefit from close supervision as exemplified by the behaviors outlined above (e.g., regular check-ins). Furthermore, it is possible that in some internship situations, where specialized and/or dangerous machinery or other risks are involved for example, close supervision is more important than in other workplaces – all underscoring the importance of supervision being tailored to fit the unique needs and situations of the task, the intern, and the employer.

The data reported in this paper indicate that socioeconomic status and demographics are associated with the outcomes of college internships, raising questions of equity, access, and quality for internship researchers and practitioners.

Implications for research, policy, and educational practice

While asking supervisors to carefully design the internship experience with attention to culture, student experience, and appropriate supervision may appear a big “ask” of employers, we contend that it is only in doing so will the potential of internships as a form of experiential learning be fully realized. In fact, McHugh (2017) has stated that, “for institutions that encourage and/or require internships, screening internship providers in terms of their supervisory commitment is warranted” (p. 377), and this position is echoed by the experience of career services professionals who argue that the quality of supervisors in crafting a rich learning experience is a critical feature of a successful internship (O’Neill, 2010). Consequently, one of the priority areas for internship research in the near future should be to answer questions such as: What types of training should be required for internship supervisors? and, How does the process of legitimate peripheral participation vary across disciplinary and professional contexts? Answers to these questions also have implications for policies governing internship programs, especially the types of requirements placed on employers with respect to supervisor training and the provision of well-designed and supervised tasks for student interns.

In addition, the data reported in this paper indicate that socioeconomic status and demographics are associated with the outcomes of college internships, raising questions of equity, access, and quality for internship researchers and practitioners. Specifically, gender, race, first-generation status, annual income, and institutional affiliation all play a role in shaping student outcomes. Students with a higher level of annual income may tend to report a higher level of internship satisfaction, female interns are more likely to report a higher level of developmental value, and first-generation students and students with a higher annual income were more likely to report a higher degree of career adaptability. These findings confirm calls in the literature for a greater focus on how race, gender, and social class influence student experiences (or lack thereof) with internships (Curiale, 2009; Finley & McNair, 2013).

In particular, we call for the field to investigate the role that students' racial identities may play in their internship experiences, particularly with respect to the race or ethnicity of their supervisors. Given the importance of cultivating a sense of cultural belonging for minoritized students on college campuses (Museus et al., 2017), evidence that Black students face unique challenges and opportunities as they seek to pursue and complete HIPs in general and internships in particular (Bridges et al., 2008; Covington, 2017; Fetter & Thompson, 2020), and that same race student intern-supervisor dyads lead to more positive student experiences than mixed race dyads (Hendricks & Cartwright, 2018), accounting for the ways that racial identity, culture, and power affect student experiences within internship and their supervisors is a critical issue facing the field of higher education. While the study reported in this paper does not explore these topics in depth given space limitations, it will be important for future research in the area to examine these critical issues.

Ultimately, the data reported in this paper underscore the importance of higher education professionals and policymakers of viewing internships as spaces for student learning and professional growth that are as challenging to design as a new academic program or course. Until and unless the field pays closer attention to the design challenges of crafting a high-quality learning space within the internship, the potential of these programs to truly be a "high-impact practice" will remain unrealized for the thousands of college students who could benefit from these potentially transformative work-based learning experiences.

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Continuing Studies
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