Examining the relationship between career focused high-impact practices (HIPs) and undergraduate students' career and communication confidence

Darshon Reed
University of Central Arkansas
January Schultz
University of Central Arkansas
Shawn R. Charlton
University of Central Arkansas
Riva Brown
American Red Cross
Marsha D. Massey
University of Central Arkansas
Stephen O'Connell
University of Central Arkansas
Faith Yarberry
University of Central Arkansas

Keywords: high impact practices; communication, career preparation; higher education; active learning

Abstract

Higher education institutions implement high-impact practices (HIPs) to improve student learning outcomes and provide workforce preparation. HIPs are evidenced-based teaching and learning practices that promote high levels of engagement, retention, and academic success. While HIPs have been shown to improve student performance and graduation rates, the relationship between HIPs and student confidence in career preparation and communication has not been analyzed. Our work explored the relationship between career focused HIPs in major or minor programs and self-reported career preparation and communication confidence. Data were collected using a survey completed by 365 undergraduate students at a midsized regional doctoral/professional university. Our findings reveal that students who engaged in at least 1 career focused HIP as part of their major or minor coursework self-reported increased confidence in career preparation and communication skills. Although effect sizes found were small, these results support previous work that show HIPs embedded in higher education courses facilitate career readiness. Additionally, these results warrant further examination of career focused HIPs and their dynamic effect on career planning and preparation.

Examining the effect of career focused high-impact practices (HIPs) on student career and communication confidence

Over the past decade, college completion rates have attracted significant public attention due to rising tuition costs, concerns about institutional accountability, and the value of a degree (The Chronicle of Higher Education, 2023; Kelchen, 2024; St Amour, 2019). In response to budget limitations and taxpayer expectations, state and federal lawmakers have pushed colleges to improve their graduation rates. Additionally, many educators argue that the value of a college education extends beyond simply finishing courses to include the types of experiences students engage in. The American Association of Colleges and Universities (AAC&U) first identified high-impact practices (HIPs) in 2008 as those that are “especially effective in promoting student learning and preparing students for their future careers” (Kuh, 2008, p. 44).

The American Association of Colleges and Universities reported a list of 10 “effective educational practices” that require students to engage actively inside and outside the classroom (Kuh, 2008). Though definitions have changed with time, lists of HIPs typically include capstone courses and projects, collaborative assignments and projects, diversity/global learning, internships, service- and community-based learning, first-year seminars and experiences, learning communities, writing-intensive courses, undergraduate research, and common intellectual experiences (Kuh et al., 2013; Kuh et al., 2017). Numerous studies report a strong positive correlation between student course grades, transferable skills, retention, and graduation rates when participating in HIPs (Binder, et. al., 2015; Bonet & Walters, 2016; Brownell & Swaner, 2010; Buch & Spaulding, 2008; Kilgo et al., 2015; Miller et al., 2022). Other studies report increased early job placement and career planning for students participating in HIPs (Dorman & Brown, 2018; Miller et al., 2022). Thus, high impact practices gained significant attention and have been implemented across various segments of higher education.

Literature Review

Participation in HIPs is also linked to increased self-efficacy among college students. For example, Kuh (2008) notes that undergraduates participating in HIPs - such as study abroad, service learning, research with faculty, or an internship - provides students a better understanding of themselves in relation to others and the larger world, and the acquisition of “intellectual tools and ethical grounding to act with confidence for the betterment of the human condition” (p. 17). Self-efficacy is essential to student success because it refers to an individual’s beliefs about their ability to complete necessary behaviors to produce a specific performance outcome (Bandura, 1977, 1997). Additionally, research has shown that experiential learning curriculum, which includes internships, can influence career efficacy. Career efficacy is related but differs from self-efficacy in that it encompasses the beliefs in career choice goals, the actions taken to pursue and persist in the career path, and the quality of performance in the career path (Brown, & Lent, 2023). Caza and colleagues (2015) found a holistic, experiential curriculum led to greater career efficacy and student satisfaction than traditional curricula. Internship experiences, specifically, offer opportunities to apply classroom knowledge in professional settings, enhancing self-assurance and career readiness (Hart Research Associates, 2009).

HIPs can also enhance student learning and engagement, which can indirectly impact students’ career confidence and communication skills. Dorman and colleagues (2018) found that curricular enhancements resulted in students reporting that they felt more confident “in their abilities to identify appropriate employers and positions, present their experiences and skills effectively, network, and plan their own careers”. Similarly, Miller and colleagues (2022) reported that art alumni who participated in HIPs reported higher levels of career development. Moreover, HIP activities were associated with more successful post-graduation job searches, with those completing portfolios and internships during college more likely to have shorter initial job searches.

Kuh (2008) explains that HIPs help students develop strong written and oral communication skills—abilities that are essential for meeting the demands of today’s workforce. National survey results from employers show that only 30% believe students were very well-prepared in oral communication and only 26% for written communication. Recently, 95% of employers responding to the National Association of Colleges and Employers Job Outlook report (2024) cited communication as the most important competency for graduates to meet. However, in the same report, only 55.2% of employers rate students as very/extremely proficient in communication. HIPs such as service learning and undergraduate research strengthen both professional identity and communication skills. In a virtual service-learning project, students reported improved communication when mentoring school-aged children (Torres et al., 2022). Undergraduate research similarly builds professional identity while enhancing scientific communication through oral, poster, and written formats (Hunter et al., 2007). These experiences also foster empathetic and collaborative communication with diverse communities (Eyler & Giles, 1999). Building on this research, the current study examines a range of career-focused HIPs embedded in undergraduate majors and minors to further explore their impact on professional identity and communication skills.

Overall, HIPs have gained recognition for their potential to significantly enhance student learning outcomes, including communication skills and confidence levels. Institutions have prioritized HIPs because they meet the needs of employers who seek graduates with analytical skills, creativity, and adaptability (An & Loes, 2023; Finley, 2021; Flateby & Rose, 2021). Thus, colleges and universities have attempted to respond to lawmakers and taxpayers demands by incorporating HIPs across the curricula to improve student engagement, graduation rates, and post-graduation employment.

One concern that has been voiced regarding traditional HIPs in higher education is that not all HIPS are created and delivered equally in terms of student awareness and engagement. Passive HIPs have been described as those that are simply built into the curriculum (i.e. general education requirements global awareness courses, and writing-intensive courses) where students are engaging naturally but likely unknowingly (Tice, 2025). Whereas active HIPs are described as those requiring intentional participation (i.e. internships, research, service-learning projects, etc.), are accessible, participatory, and student-driven experiences. Career focused HIPs embedded in the curriculum meet the guidelines for the active HIP description and support research that has shown students develop critical career, leadership, and interpersonal skills through mentorship in professional communities, campus leadership positions, and meaningful employment experiences (Pascarella & Terenzini, 2005). However, if the impacts of career focused HIPs on student career outcomes and professional development are not clear and easily communicated to students, faculty, and administrators, efforts to increase career HIPs and work integrated learning (WIL) in the curriculum may be minimized.

Previous research has found positive effects of HIPs on some career outcomes and communication skills, but there have been no direct studies of the effects of career-focused HIPs on career and communication confidence among students engaged in these practices. Preliminary research focusing on perceptions of increased confidence after engaging in career focused HIPs could address this concern. Thus, our work aims to understand if incorporating career focused HIPs in university major or minor program curricula impacts students' self-reported career and communication confidence.

Summary and Significance of Proposed Research

As higher education faces increasing pressure to demonstrate the value of a college degree, institutions are being challenged to show not only that the students graduate, but that they leave college prepared to enter and succeed in the workforce. HIPs, including internships, undergraduate research, service-learning, collaborative projects, and other experiential learning opportunities, represent one strategy for connecting academic learning with professional preparation. Research consistently associates participation in HIPs with positive outcomes such as student engagement, retention, academic achievement, transferable skill development, career planning, and employment outcomes (Kuh, 2008; Kuh et. al, 2013; Miller et. al., 2022). These experiences may be particularly valuable because they allow students to apply

disciplinary knowledge in authentic contexts while developing confidence in their ability to communicate, collaborate, solve problems, and navigate professional environments.

However, an important gap remains in the HIP literature. Although previous work has linked HIP participation to academic success, career development, employment outcomes, and communication skills, considerably less is known about whether career-focused HIPs embedded within undergraduate majors and minors are associated specifically with student's confidence in their career and communication abilities. Moreover, HIPs differ in the extent to which they require intentional student engagement. Career-focused experiences such as internships, undergraduate research, service-learning, and other forms of work-integrated learning represent active applications of academic knowledge rather than passive exposure to professional development. Understanding the outcomes associated with these intentional experiences is necessary for determining how institutions should design, support, and communicate the value of applied learning.

The proposed research addresses this problem by examining student's self-reported career and communication confidence as a function of participation in career-focused HIPs embedded within undergraduate academic programs. Specifically, the study addresses the following research questions:

1. To what extent does self-reported career confidence differ between undergraduate students who have participated in career-focused HIPs in their major and those who have not?

2. To what extent does self-reported career confidence differ between undergraduate students who have participated in career-focused HIPs in their minor and those who have not?

3. To what extent does self-reported communication confidence differ between undergraduate students who have participated in career-focused HIPs in their major and those who have not?

4. To what extent does self-reported communication confidence differ between undergraduate students who have participated in career-focused HIPs in their minor and those who have not?

A potential solution to the disconnect between academic learning and workforce preparation is the more intentional integration of career-focused HIPs and work-integrated learning into undergraduate curricula. Rather than treating career readiness and preparation as an activity that occurs primarily outside the curriculum or near graduation, programs can provide structured experiences for students to apply disciplinary knowledge, interact with professional communities, communicate with diverse audiences, and reflect on how their academic experiences translate into workplace competencies. Importantly, simply increasing the number of HIPs embedded

in the major and minor may not be as impactful as the quality of professional development, communication, and applied disciplinary learning that the HIPs include.

Further research is warranted because the expansion of applied learning requires evidence about which experiences contribute to career readiness and employability, and how students perceive their professional development through those experiences. Establishing relationships between career-focused HIP participation and career and communication confidence can provide preliminary evidence for designing more intentional curricula, allocating institutional resources, and helping faculty communicate the career relevance of experiential learning. Such evidence would also help institutions move beyond using HIPs as a general student success outcome and toward evaluating whether these experiences produce the professional competencies and confidence that is expected.

Ultimately, the proposed study shifts the conversation from whether HIPs are generally beneficial to the more applied question of how intentional, career-focused experiences contribute to student's perceptions of their readiness to communicate and function effectively in professional environments. The aim of this study is for the findings to offer preliminary evidence that will inform curricular design, career-readiness initiatives, and institutional decisions about work-integrated learning while providing a foundation for subsequent research examining the mechanisms through which career-focused HIPs influence professional development and post-graduation outcomes.

Method

Participants

We emailed our survey to all university students via the University's student affairs campus email list. We received complete survey responses from 365 respondents (out of 770 total responses received). This resulted in a 4.4 percent response rate when considering the undergraduate enrollment. The sample was majority white, 21 years of age, with a breakdown of 260 women and 90 men. The demographics of the respondents were in line with the university's enrollment population. Please see table 1 for participant demographics, major breakdowns, and self-reported post-graduation plans.

Materials

Career Planning Confidence Scale (CPCS) (McAuliffe et al., 2006)

The Career Planning Confidence Scale is composed of 39 items evaluated on a 5-point scale ranging from "No confidence" (1) to "Complete confidence" (5) divided across six domains. The original authors assessed the reliability and validity of the CPCS using data from 1,574 first-year students at a public university. They later gave the CPCS to 400 incoming college students to assess test-retest reliability (McAuliffe et al.,2006). Content validity was established through specific behavior-related items developed and evaluated by content experts based on seven career planning domains: (a) readiness to engage in career planning, (b) self-assessment, (c) generating options, (d) information

seeking, (e) deciding, (f) making plans, and (g) taking action (McAuliffe et al., 2006). Construct validity was established through factor analysis, resulting in a six-factor structure aligning with the developer's proposed theoretical model. Criterion-related validity was established through positive correlations with other career planning and development measures. The six domains were moderately to strongly stable across a 2-week period (r = .58 to r = .75). The domains showed strong internal consistency with Cronbach's alpha values ranging from .81 to .92. We used questions from two domains from the CPSC in the current study to assess students' confidence in searching for career information and implementing their career decisions.

The original Information-Seeking domain consisted of seven items answered on a 5-point scale ranging from "No confidence" (1) to "Complete confidence" (5) developed to assess how confident students were in seeking career information and communicating career interests and values. Example items included "find general career information about the occupations in which you are interested" and "list the benefits and risks of choosing each one of these occupations". The current study added one additional item that read "identify an appropriate salary range for the position you are interested in based on the industry, location, and job requirements". This item was created by the authors for this study to address concerns found in previous work (Chin, et. al., 2019; Foster et. al., 2024; Milosheva et. al., 2022) that emphasize career information literacy is lacking in coursework as it relates to career exploration.

Reliability analysis for these items revealed a Cronbach's alpha value of .94, which suggest the items showed strong internal consistency. The domain's positive correlation (r = .67) with the Communication Confidence scale used in this study to assess student's confidence in communicating to different audiences and using different modalities suggest the two scales are measuring related but different areas of confidence.

The Confidence in Implementing your Decision domain included ten items evaluated with the same rating scale as the information seeking confidence domain to access a student's confidence in performing steps to pursue a selected career. All ten items in this domain were implemented as written in the original scale, except for minor word adjustments to reflect current language usage. Example items included "preparing a good resume" and "move to another area to seek employment in your chosen occupation". Reliability analysis for this domain revealed a Cronbach's alpha value of .92, which suggest the items showed strong internal consistency even with minor word adjustments. The subscale's positive correlation (r = .66) with the Communication Confidence domain suggests the two domains are measuring related but different areas of confidence.

Communication Confidence Scale (CCS)

The Communication Confidence scale measured participants' confidence in communicating in various professional contexts. The scale was created specifically for this study and consists of eight items presented in Table 2. Example items include "I am confident in my public speaking skills" and "I am confident in my ability to communicate

in small groups". Participants answered each item on a 5-point scale that ranged from "strongly disagree" to "strongly agree." The mean and standard deviation for each item on the CCS is also presented in Table 2. As the Communication Confidence Scale (CCS) was created specifically for this study, we evaluated the scale's reliability. Internal consistency reliability of eight items used to capture communication confidence was assessed using Cronbach's alpha: 0.91 (95% CI [0.90, 0.92]), indicating excellent internal consistency reliability for the scale. Pairwise complete cases were utilized for analysis.

HIPs in the Major and Minor

To determine the perception of career focused HIPs in the major and minor, participants were asked if their major and minor program included career preparation opportunities. Participants selected yes or no, then were asked about specific career preparation opportunities in their major. The career preparation opportunities included: internships, practicums, service-learning courses, research opportunities, professional networking opportunities, and career selection/exploration course. Answer options for each career HIP category included not available, required, or recommended. The same categories were presented to respondents who indicated their program of study included a minor. Additionally, respondents were asked if they had directly experienced career focused HIPs in their program of study to ensure students completed one of the required or recommended HIPs. Further, respondents were asked to identify the level (lower division or upper division courses) at which the career focused HIPs occurred in their major and/or minor. The authors confirmed all program career HIP requirements for majors and minors included in the study responses by reviewing major and minor check sheets used by the university advising office and by confirming with program directors. The quasi-independent variable was created by comparing students who had experienced at least 1 career focused hip in their major (and minor) to those who had not.

Although HIP definitions typically include other practices such as writing intensive courses, living-learning communities, common intellectual experiences, and first-year seminar courses, the current study focused on the above-mentioned HIPs because they fit the description of active HIPs (Tice, 2025) that focused on or included career planning or preparation.

Procedures

After receiving exempt approval to conduct the campus-wide study from the University of Central Arkansas' Institutional Review Board, participants received the study invitation to their student email, either through a general email sent through the Student Affairs student distribution list or an email from a course instructor. Because this was a web-based survey, participants completed it at locations and times of their choosing. Participants completed the survey by clicking the selected response option or typing responses in a textbox. Those who chose to participate clicked a link in the email to begin. The first portion of the survey presented participants with an informed consent letter that included the purpose of the study, which was described as "to understand perceptions of career preparation as it relates to confidence in skills, abilities, decisions,

goals, and plans". The consent form also described the procedure, potential risks and benefits, anonymity of responders' identity, and primary investigator contact information for the research. Only participants who indicated agreement with the content letter received survey items. After informed consent, participants reported their demographics and completed several survey items, including questions about career-focused high impact practices in their major and minor as well as questions about their career preparation confidence and communication confidence. After completing all survey items, participants were presented with a debriefing letter and an option to submit their name, email, and course information for potential course points (at the instructor's discretion). All instructors offering course credit for completing the survey offered their students alternative assignments if they chose not to complete the survey. The data was only viewable by the authors of the study and was stored secured according to IRB data requirements.

Design & Data Analysis

The present study employed a between-subjects, comparative design to examine whether students who completed at least one career preparation course (that were required or recommended) in their major and minor courses scored higher on self-report questionnaires of career preparation and communication confidence compared to students who had not taken such courses in their major and minor courses. The quasi-independent variable was course experience, with two levels: (a) students who had enrolled in and completed at least one career preparation course in the major and/or minor, and (b) students who had not enrolled in any career preparation courses. The dependent variable was self-reported career preparation confidence, measured using standardized self-report questionnaires that assess participants' perceived confidence in their career planning for entering the workforce and confidence in communicating professionally in various professional contexts.

The primary focus of this design was to test whether mean differences in self-reported career planning and communication confidence existed between the two groups. Participants were assigned to groups naturally, based on their prior course experience, rather than through experimental manipulation. Group comparisons were conducted using independent-samples t tests, which allowed for evaluation of whether the mean scores differed significantly. This design was chosen to determine if the experience of structured career planning and communication coursework corresponds with higher self-perceived confidence relative to peers without such coursework experience.

Due to the exploratory nature of our work on career focused HIPs, we utilized an online survey method to gather data to address these research questions. Asking students directly if their confidence in career preparation and professional communication has been influenced by teaching methods and approaches embedded in their major and minor programs is the first step in determining if career focused HIPs are effective in increasing career preparation and communication among college students. Further, survey methods are known to be cost-effective and efficient methods to collect large amounts of data (that can be generalizable) from broad populations such as student populations (Goodfellow, 2023). All data collected was primary data taken directly from survey responses.

To address the four study questions, separate independent sample t-tests were planned to compare career planning confidence and communication confidence scores for students who reported not having career focused HIPs available in their major and minor to those who reported HIPs were required or recommended in their major and/or minor. Normality, homogeneity of variance, and independence assumptions were all tested following analysis guidelines (Turner & Thayer, 2001). There was slight deviation from normality and a violation of homogeneity of variance ($p < .001$) in the data, so the Mann Whitney statistic was used in place of the studentized t statistic to address these violations. The Mann-Whitney U test is a non-parametric test that can identify differences in independent groups in the presence of violations of the assumptions of normality and/or equal variances (Fay & Proschan, 2010). For each comparison, a power analysis using G* Power version 3.1.9.7 (Faul et. al., 2007) was conducted to identify the sample size needed to determine a small effect size ($r = .4$) with a Type 1 error rate of .05 and Type 2 error rate of .10. The sample size needed for each analysis to achieve these parameters was 226. The results of each comparison across the confidence scores are discussed below and can be found in Table 3.

Results

Comparison of career focused HIPs in the major on career confidence- Information seeking (CPCS-ISC)

The Mann-Whitney U test was conducted to compare the information-seeking scores of the two groups ($n1 = 177$, $n2 = 270$) and revealed a significant difference across the groups, $U = 18863$, $p < .01$. The median information seeking score for the students without career focused HIPs in the major was 30, while the median for the students with career focused HIPs in the major was 32. The effect size (r) was calculated to be -0.22, indicating a weak effect.

Comparison of including career focused HIPs in the major on career confidence- Implementing a decision (CPCS-CID)

The Mann-Whitney U test conducted to compare the implementing scores of the two groups ($n1 = 176$, $n2 = 261$) and revealed a significant difference across the groups, $U = 16388$, $p < .01$. The median information seeking score for the students without career focused HIPs in the major was 37, while the median for the students with career focused HIPs in the major was 41. The effect size (r) was calculated to be -0.29, indicating a weak effect.

Comparison of including career focused HIPs in the major on communication confidence (CCS)

The Mann-Whitney U test conducted to compare the communication confidence scores of the two groups ($n1 = 197$, $n2 = 292$) and revealed a significant difference across the groups, $U = 16388$, $p < .01$. The median information seeking score for the students without career focused HIPs in the major was 29, while the median for the students with

career focused HIPs in the major was 31. The effect size (*r*) was calculated to be -0.22, indicating a weak effect.

Comparison of career focused HIPs in the minor on career confidence- Information seeking (CPCS-ISC)

The Mann-Whitney U test conducted to compare the information seeking scores of the two groups ($n1 = 134$, $n2 = 113$) and revealed a significant difference across the groups, $U = 5468$, $p < .01$. The median information seeking score for the students without career focused HIPs in the major was 30, while the median for the students with career focused HIPs in the major was 33. The effect size (*r*) was calculated to be -0.28, indicating a weak effect.

Comparison of including career focused HIPs in the minor on career confidence- Implementing a decision (CPCS-CID)

The Mann-Whitney U test was conducted to compare the implementing scores of the two groups ($n1 =132$, $n2=107$) and revealed a significant difference across the groups, $U = 5202$, $p < .01$. The median information seeking score for the students without career focused HIPs in the major was 38, while the median for the students with career focused HIPs in the major was 41. The effect size (*r*) was calculated to be -0.26, indicating a weak effect.

Comparison of including career focused HIPs in the minor on communication confidence (CCS)

The Mann-Whitney U test conducted to compare the information seeking scores of the two groups ($n1 = 145$, $n2 = 120$) and revealed a significant difference across the groups, $U = 7091$, $p < .01$. The median information seeking score for the students without career focused HIPs in the major was 30, while the median for the students with career focused HIPs in the major was 32. The effect size (*r*) was calculated to be -0.19, indicating a weak effect.

Discussion

This study examined the perception of career focused HIPs in the curriculum (major and minor) and their impact on student's self-reported career and communication confidence. Results revealed significant differences in self-reported career and communication confidence when students had career focused HIPs incorporated into their major and minor curriculum that were required or recommended. However, all effect sizes were small in nature so our interpretations must be tempered. Our results do provide partial support of previous literature highlighting positive influences of career training and work integrated learning (WIL) on students' preparedness and confidence in navigating career paths (Jackson, 2023). WIL refers to experiences imbedded in the curriculum that immerse students in a professional setting typically related to the field of study such as internships, practicums, and service-learning projects.

Specifically, our results support previous literature that has found HIPs have a notable influence on students' preparedness and confidence in seeking career-related information (Dorman & Brown, 2018; Miller et al., 2018). Higher confidence in career information seeking can contribute to students' long-term career success in that confident individuals are more likely to actively seek opportunities, network effectively, and make informed decisions about their career paths (Dorman et al., 2018). Our results regarding students' confidence in implementing career decisions also support previous findings by Caza and colleagues (2015) that have shown presence of HIPs within students' major influences career decisions. We know HIPs provide students with opportunities to bridge the gap between theory and practice by allowing them to see real-world relevance of academic studies (Caza et al.,2015). Additional studies should be conducted to further examine how tailoring educational experiences to specific fields of study maximize effectiveness in preparing students for future careers. Specifically, future research should examine what differences, if any, exist in specific dimensions of career confidence based on students' participation in career-focused HIPs.

The results of the current study also provide partial support for work that has shown immersive learning experiences impacting students' communication ability. Exposure to HIPs in both the major and minor fields of study exposes students to diverse perspectives and requires them to communicate professionally and effectively across disciplinary boundaries (Eyler & Giles, 1999; Kuh, 2013; Torres et al., 2022). This interdisciplinary approach enriches students' learning experiences and enhances ability to communicate complex ideas to audiences with varied backgrounds. Although our results produced small effects, exposure to career focused HIPs in the major and minor courses did influence students' confidence in communicating professionally. This is important because any growth in professional skill development is positive for students' long-term success.

Our findings suggest that integrating experiential, career-oriented activities—such as internships, service learning, and research projects—can meaningfully enhance students' readiness for the workforce. By actively engaging in real-world scenarios and data, students not only develop clearer career goals but also build essential communication skills that are critical for professional success. This underscores the value of designing curricula that go beyond traditional lectures to include hands-on, career-relevant experiences that foster both personal and professional growth. Educators should embed career HIPs systematically across courses to support students' career development. Encouraging students to articulate their career plans and practice communication in authentic contexts helps build their self-efficacy, communication confidence, and career efficacy simultaneously. Additionally, these practices can promote deeper student engagement and motivation by connecting academic content with future career opportunities. Ultimately, the classroom environment that emphasizes career preparation and communication skills equip students with the tools they need to navigate the job market effectively and adapt to evolving professional demands.

Limitations & Future Directions

We recognize that these results are not robust and include several limitations that must be addressed. First, our response rate can be perceived as small in terms of the number of students attending the institution who received an invitation to complete the survey. We received well over 700 responses, but not all responses were usable and complete. This is a common disadvantage to using survey methods for data collection, but for the current study the survey methods were the most appropriate to reach varying types of students attending the university (Goodfellow, 2023).

Additionally, although we shared the survey broadly at the institution of interest, we primarily received responses from psychology, biology, and nursing majors. We suspect this is a result of these majors comprising a large quantity of enrolled students at the institution and the positionality of the authors. Two authors teach in the Psychology Department. We also recognize that other demographics could have influenced participants' career planning confidence and communication confidence. For example, it is possible that the students that completed at least 1 career focused HIP in their major or minor were majority junior and senior students completing required capstone experiences, which are reserved for the latter portion of the program. Thus, higher classification may yield higher career confidence and communication confidence regardless of the completion of a career HIP experience. Future research should compare lower classification students to upper classification students to determine the differences, if any, in career confidence and communication confidence across these groups. We did not assess or control demographic variables in our analyses because that was not the focus of our research questions. We encourage future research to examine how these variables may independently and dynamically work to impact career planning and communication confidence.

Our study also does not look at longitudinal effects of HIPs on communication and career confidence because we only examined scores at one time point. Our method was suited to reveal a snapshot of career preparation and communication confidence. We did not examine if effects go beyond this period or are longer lasting. It is possible that multiple exposures across the major and minor curriculum lead to stronger and longer-lasting effects. Additionally, we did not triangulate our data by gathering information from instructors regarding career readiness and communication skills. Future research should gather feedback from instructors of career focused HIP courses to determine their perspective of their students’ career and communication skills and the strengths and challenges of work-integrated learning in the curriculum.

Lastly, the lack of a factor analysis of the CCS we developed to address the specific research question regarding communication confidence limits the generalizability of the results. Our study aimed to create unique items on the scale that addressed different aspects of professional communication confidence, but our research aim was not focused on scale development. Future researchers that wish to replicate our findings should further develop the scale through factor analysis to confirm the structure of the eight items that were found in the current sample.

Going forward, additional research would be needed to distinguish between different types of career focused HIPs and their relationship to professional communication confidence in students. We believe it would be very beneficial to replicate this study with recent graduates across multiple higher education institutions (public, private, 4-year, 2-yr, etc.) to provide evidence of professional application of skills gained from career focused HIPs. Additionally, our findings would be more comprehensive and complemented by future longitudinal studies with repeated measures that cut across multiple disciplines to fully understand the dynamic processes and long-term effects of career and communication skill development through career focused HIPs.

Implications for Education

Our work supports the current belief that career focused HIPs have a broad utility to improve students' confidence in professional communication, regardless of their future planning or field of study. This study is significant because it highlights how career-focused high-impact practices in higher education not only support academic success but also strengthen students' confidence in career preparation and communication skills. By demonstrating these benefits, the research underscores the value of embedding career-oriented HIPs into curricula to enhance student readiness for the workforce.

In conclusion, results of our study indicate that incorporating HIPs into both majors and minors significantly enhances students' self-perceived career preparation and communication confidence. Our research helps bridge the gap between the potential of HIPs and their perceived value, thus maximizing their impact on student development and success. HIPs exposure and experience foster a deeper understanding and application of communication techniques, ultimately leading to increased self-assurance in their ability to convey ideas effectively across various contexts. In the age of increased use of technology in higher education, this work is not only timely but also important. HIPs provide crucial opportunities to practice and refine career skills, better preparing students for personal and professional success. Future educational strategies should consider integrating these practices more widely to maximize their positive impact on student outcomes.

References

An, B. P., & Loes, C. N. (2023). Participation in high-impact practices: Considering the role of institutional context and a person-centered approach. *Research in Higher Education*, *64*(4), 520–546. https://doi.org/10.1007/s11162-022-09715-6

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191–215.

Bandura, A. (1997). *Self-Efficacy: The exercise of control*. W. H. Freeman.

Binder, J. F., Baguley, T., Crook, C., & Miller, F. (2015). The academic value of internships: Benefits across disciplines and student backgrounds. *Contemporary Educational Psychology*, *41*, 73–82. https://doi.org/10.1016/j.cedpsych.2014.12.001

Bonet, G., & Walters, B. R. (2016). High impact practices: Student engagement and retention. *The College Student*, *15*(2), 224–235.

Brown, S. D., & Lent, R. W. (2023). Social cognitive career theory. In W. B. Walsh, L. Y. Flores, P. J. Hartung, & F. T. L. Leong (Eds.), *Career psychology: Models, concepts, and counseling for meaningful employment* (pp. 37–57). American Psychological Association. https://doi.org/10.1037/0000339-003

Brownell, J., & Swaner, L. E. (2010). *Five high-impact practices: research on learning outcomes, completion and quality*. Association of American Colleges and Universities.

Buch, K., & Spaulding, S. (2008). A longitudinal assessment of an initial cohort in a psychology learning community. *Teaching of Psychology, 35*(3), 189–193. https://doi.org/10.1177/009862830803500306

Caza, A., Brower, H. H., & Wayne, J. H. (2015). Effects of a holistic, experiential curriculum on business students' satisfaction and career confidence. *The International Journal of Management Education, 13*(1), 75–83. https://doi.org/10.1016/j.ijme.2015.01.006

Chin, M. Y., Cohen, C. B. A., & Hora, M. (2019). Examining US business undergraduates' use of career information sources during career exploration. *Journal of Education and Training, 62*, 15-30. https://doi.org/10.1108/et-05-2019-0103

Chittum, J. R., Enke, K. A. E., & Finley, A. P. (2022). *The effects of community-based and civic engagement in higher education*. American Association of Colleges and Universities. https://dgmg81phhvh63.cloudfront.net/content/user-photos/Research/PDFs/Effects-of-Community-based-and-Civic-Engagement.pdf

Dorman, S., & Brown, K. (2018). The liberal arts: Preparing the workforce of the future. *Liberal Education, 104*(4).

Eyler, J., & Giles Jr, D. E. (1999). *Where's the learning in service-learning?* Jossey-Bass Higher and Adult Education Series. Jossey-Bass, Inc.

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical Sciences. *Behavior Research Methods, 39*(2), 175–191. https://doi.org/10.3758/bf03193146

Fay, M., & Proschan, M. (2010). Wilcoxon–Mann–Whitney or t-test? On assumptions for hypothesis tests and multiple interpretations of decision rules. *Statistics Surveys, 4*: 1–39. https://doi:10.1214/09-SS051.

Finley, A. (2021). *How college contributes to workforce success: Employer views on what matters most*. Association of American Colleges & Universities.

Flateby, T. & Rose, T. (2021, July 16). *From college to career success. How educators and employers talk about skills*. AACU. https://www.aacu.org/liberaleducation/articles/from-college-to-career-success-how-educators-and-employers-talk-about-skills

Foster, K., Lambert, L., Solomon, R., Perkins, H., & Masani, S. (2024). In real life: a curriculum for developing students' self-efficacy and outcome expectations through purpose-driven career exploration and planning within a core STEM course. *Journal of Microbiology & Biology Education, 26*. https://doi.org/10.1128/jmbe.00137-24

Goodfellow L. T. (2023). An overview of survey research. *Respiratory Care, 68*(9), 1309–1313. https://doi.org/10.4187/respcare.11041

Hart Research Associates. (2009). *Trends in learning outcomes, general education, and assessment: A survey among members of the association of American Colleges and Universities.* https://www.aacu.org/membership/documents/2009MemberSurvey_Part1.pdf

Hora, M. T., Parrott, E., & Her, P. (2020). How do students conceptualize the college internship experience? towards a student-centered approach to designing and implementing internships. *Journal of Education and Work, 33*(1), 48–66. https://doi.org/10.1080/13639080.2019.1708869

Hunter, A., Laursen, S. L., & Seymour, E. (2006). Becoming a scientist: The role of undergraduate research in students' cognitive, personal, and professional development. *Science Education, 91*(1), 36–74. https://doi.org/10.1002/sce.20173

Jackson, D. (2023). The relationship between student employment, employability-building activities and graduate outcomes. *Journal of Further and Higher Education, 48*(1), 14–30. https://doi.org/10.1080/0309877X.2023.2253426

Jepsen, D. A., & Dilley, J. S. (1974). Vocational decision-making models: A review and comparative analysis. *Review of Educational Research, 44*(3), 331. https://doi.org/10.2307/1169979

Johnson, S. R., & Stage, F. K. (2018). Academic engagement and student success: Do high-impact practices mean higher graduation rates? *The Journal of Higher Education, 89*(5), 753–781. https://doi.org/10.1080/00221546.2018.1441107

Kelchen, R. (2024). The role of state higher education policy in student success and equity. *Journal of Postsecondary Student Success*, 3(3), 4–24. https://doi.org/10.33009/fsop_jpss135047

Kilgo, C. A., Sheets, J. K. E., & Pascarella, E. T. (2015). The link between high-impact practices and student learning: some longitudinal evidence. *Higher Education, 69*(4), 509–525. https://doi.org/10.1007/s10734-014-9788-z

Kuh, G. D. (2008). *High-impact educational practices: What they are, who has access to them, and why they matter* (p. 44). Association of American Colleges and Universities.

Kuh, G.D., O'Donnell, K., & Reed, S. (2013). *Ensuring Quality and Taking High Impact Practices to Scale*. Association of American Colleges & Universities.

https://www.aacu.org/publication/ensuring-quality-and-taking-high-impact-practices-to-scale

Kuh, G., O'Donnell, K., & Schneider, C. G. (2017, September/October). HIPs at ten. *Change: The Magazine of Higher Learning, 49*(5), 8-16. https://doi.org/10.1080%2f00091383.2017.1366805

Maxwell, K., Pittman, S. (2022). Experiential learning: An innovative way to bring success in the future endeavors of transfer students. *New Directions for Teaching & Learning, 171*, 29-35. https://doi.org/10.1002/tl.20514

McAuliffe, G., Jurgens, J. C., Pickering, W., Calliotte, J., Macera, A., & Zerwas, S. (2006). Targeting low career confidence using the career planning confidence scale. *Journal of Employment Counseling, 43*(3), 117–129. https://doi.org/10.1002/j.2161-1920.2006.tb00011.x

Miller, A. L., Martin, N. D., & Frenette, A. (2022). Unpacking high-impact practices in the arts: Predictors of college, career, and community engagement outcomes. *The Journal of Arts Management, Law, and Society, 52*(3), 190–210. https://doi.org/10.1080/10632921.2022.2029786

Miller, A. L., Rocconi, L. M., & Dumford, A. D. (2018). Focus on the finish line: Does high-impact practice participation influence career plans and early job attainment? *Higher Education, 75*(3), 489–506. https://doi.org/10.1007/s10734-017-0151-z

Milosheva, M., Hall, H., Robertson, P., & Cruickshank, P. (2022). *New Information Literacy Horizons: Making the Case for Career Information Literacy*. 239-252. https://doi.org/10.1007/978-3-030-99885-1_21

National Association of Colleges and Employers. (2024). Job outlook 2024 (November 2023). https://www.naceweb.org/career-readiness/trends-and-predictions

Parent, M. C. (2013). Handling item-level missing data: Simpler is just as good. *The Counseling Psychologist, 41*(4), 568-600. https://doi.org/10.1177/0011000012445176

Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: A third decade of research*. Jossey-Bass.

St Amour, M. (2019, December 9). *Completion rates still rising, new data show, but at slower pace*. Inside Higher Ed | Higher Education News, Events and Jobs. https://www.insidehighered.com/news/2019/12/10/completion-rates-still-rising-new-data-show-slower-pace

The Chronicle of Higher Education. (2023, December). *Daily Briefing: College-completion rates have stalled. Why?* https://www.chronicle.com/newsletter/daily-briefing/2023-12-01

Thomas, D. T., Walsh, E. T., Torr, B. M., Alvarez, A. S., & Malagon, M. C. (2021). Incorporating high-impact practices for retention: A learning community model for transfer students. *Journal of College Student Retention: Research, Theory & Practice, 23*(2), 243-263. https://doi.org/10.1177/1521025118813618

Tice, J. R. (2025, March 16). *Rethinking high-impact practices: Expanding the pathways to student success.* LinkedIn. https://www.linkedin.com/pulse/rethinking-high-impact-practices-expanding-pathways-student-tice-tghne

Torres, Y., Walsh, N., & Tahvildary, N. (2022). Impact of mediator mentors service-learning on college student social-emotional expertise and cultural competence.

Journal of Practical Studies in Education, 3(1), 3–13. https://doi.org/10.46809/jpse.v3i1.38

Turner, J. R., & Thayer, J. F. (2001). *Introduction to analysis of variance: Design, analysis, & interpretation*. Sage Publications.

Wolniak, G. C., & Engberg, M. E. (2019). Do “high-impact” college experiences affect early career outcomes? *The Review of Higher Education, 42*(3), 825–858. https://doi.org/10.1353/rhe.2019.0021