

IMPACTS OF WORK BASED LEARNING

RESEARCH BRIEF
MARCH 2026

Project Summary

This study explores the relationship between work-based learning experiences (WBLEs), students' career readiness perceptions and information literacy. Graduating seniors completed an information literacy assessment as well as a survey in which career readiness and WBLE information were provided. The same students had also completed the information literacy assessment as incoming freshmen, four years prior. Results consistently demonstrate a positive relationship between WBLEs in which students report opportunities for skill development with career readiness, information literacy, and change in information literacy over time. Students who engaged in WBLEs primarily involving skilled or autonomous work had better information literacy than students reporting primarily job shadowing. The results provide information about how work-based learning is associated with career readiness and information literacy and can inform development of these programs in higher education.

Purpose

The purpose of this study was to examine the relationship between different aspects of work-based learning experiences with cognitive and non-cognitive constructs (information literacy and perceived career readiness, respectively).

Key findings

- Students who reported having a WBLE with opportunities for structured assessment and feedback and for skill development had higher perceived readiness scores compared to their counterparts. Self-reported first-semester mentorship was also positively associated with career readiness.
- Information literacy in senior year was positively associated with having a designated mentor during a WBLE and opportunities for skill development. Students who engaged primarily in job shadowing had lower information literacy scores compared to students who engaged in skilled or autonomous work.
- Students who were primarily engaged in job shadowing during their WBLE also had the lowest gains in information literacy between freshmen and senior year.

Limitations

The study relied on self-reported measures of career readiness, as opposed to a skills assessment, which may be subject to social desirability or response bias. However, the inclusion of an objective learning outcome—information literacy and its change over time—adds a meaningful dimension to the findings by demonstrating that the benefits of skill-oriented WBLEs extend beyond perceived readiness to measurable learning gains.

Implications

The findings of this study underscore the important role of work-based learning experiences (WBLEs) in fostering both career readiness and information literacy among undergraduate students. Specifically, having the opportunity to develop practical skills during a WBLE was positively associated with higher career readiness scores, stronger information literacy, and greater gains in information literacy from freshman to senior year. Students who engaged in skilled or autonomous tasks during their WBLEs reported higher information literacy and greater growth in these skills compared to those who primarily engaged in job shadowing. Notably, students who performed high-skilled tasks under supervision demonstrated the highest levels of perceived career readiness, while those who engaged in autonomous work showed the greatest information literacy scores and improvement over time. These findings suggest that WBLEs that emphasize active skill application and increasing autonomy can enhance both students' confidence in their career preparedness and their capacity to locate, evaluate, and synthesize information effectively.

Methods

Students completed an information literacy assessment as incoming freshman in Fall 2021 and again as seniors prior to graduation in Spring and Summer 2025. As seniors, students provided information about work-based learning experiences. A subset of seniors responded to a set of items measuring career readiness. Data collection at both freshman and senior year take place as part of university wide initiatives that have high participation rates. Almost all incoming first years in Fall 2021 (92.6%) completed the baseline information literacy assessment and 99.6% of students graduating in Spring and Summer 2025 completed the information literacy assessment and the work-based learning items.

Measures

Work-based learning experiences

Graduating seniors were asked about participation in WBLEs; they were presented with a list of nine WBLEs with definitions and examples, and how many of each WBLE (if any) they had completed. Students who indicated completing at least one WBLE were directed to a series about questions and instructed to reflect on their most meaningful experience if they completed more than one. Students were asked the following questions:

1. During this experience, did you have a designated mentor or supervisor?
2. During this experience, did you have regular self-assessment and feedback sessions to track progress, identify areas for improvement, and connect learning to classroom concepts?
3. During this experience, did you have opportunities to practice and develop both technical skills specific to your field of study or career path of interest?
4. Did the majority of the experience occur outside a college classroom?
5. Did you receive college credit for this experience?
6. What types of tasks did you engage in? (options: job shadowing, low skills tasks with supervision, high skills tasks with supervision, autonomous work)

Only students who self-reported having a work-based learning experience were included in the analyses.

Career readiness

Six items were used to assess students' perceptions of career readiness. Responses were on a 6-point scale from strongly disagree to strongly agree. Prior validation of this measure using confirmatory factor analysis indicated good fit in repeated samples (Tucker Lewis Index > 0.98, RMSE ≤ 0.08, SRMR < 0.04 and factor loadings above 0.6) and internal consistency (coefficient alpha values ranging from 0.88 to 0.90).

Information literacy

The InfoCore is a 30-item multiple-choice assessment measuring foundational information literacy competencies, a required general education outcome for students at the institution. All items were dichotomously scored, with higher total scores representing

higher information literacy proficiency. This instrument was developed internally by content experts and reviewed by assessment professionals, with coefficient alpha values ranging from 0.75–0.84.

Early career mentorship

Participants were asked about their first semester experience, responding to the statement, “There was a professor, advisor, or staff member who”, with the following six options: 1) I thought of as a mentor, 2) I checked in with regularly, 3) I could go to with questions or concerns, 4) Encouraged my ideas or work, 5) Gave me advice about academics, resources, and career planning, and 6) Provided feedback that helped me grow as a student or professional. Each response option was scored 0 = no, 1 = yes.

Respondents were instructed to select all that apply, such that a total count could be calculated for each student. A binary variable was created indicating whether a student indicated receiving any mentorship from faculty or staff in their first semester. Though mentorship was not a focus of this study, previous studies have noted its importance in student success, including helping students adjust to college, find an academic discipline and build a professional network (Pascarella, 1980; Fuentes et al, 2014).^{1,2} First semester faculty contact is particularly important, as students who have greater contact with faculty during their first year are more likely to have other mentorship opportunities later in college (Fuentes et al., 2014).

Demographics

Demographic information was extracted from the student information system as part of the university survey process, including sex, race, first generation status, admit type, residency and major. For final analyses, race was dichotomized a White and Non-White due to small n’s.

Analysis

Three separate linear models were run with different outcome variables: career readiness, information literacy at senior year, change in information literacy from freshman to senior year. To simultaneously examine the associations between covariates and outcomes, multilevel modeling (MLM) techniques were employed. Covariates included demographic characteristics and academic background variables. The advantage of MLM is the ability to capture random variation due to multiple samples dimensions (e.g., different majors). A multilevel approach considers the contribution of major-specific factors that may

¹ Pascarella, E. T. (1980). Student-faculty informal contact and college outcomes. *Review of Educational Research*, 50(4), 545-595. <https://doi.org/10.3102/00346543050004545>

² Fuentes, M. V., Ruiz Alvarado, A., Berdan, J. et al. (2014). Mentorship matters: Does early faculty contact lead to quality faculty interaction?. *Research in Higher Education* 55, 288–307. <https://doi.org/10.1007/s11162-013-9307-6>

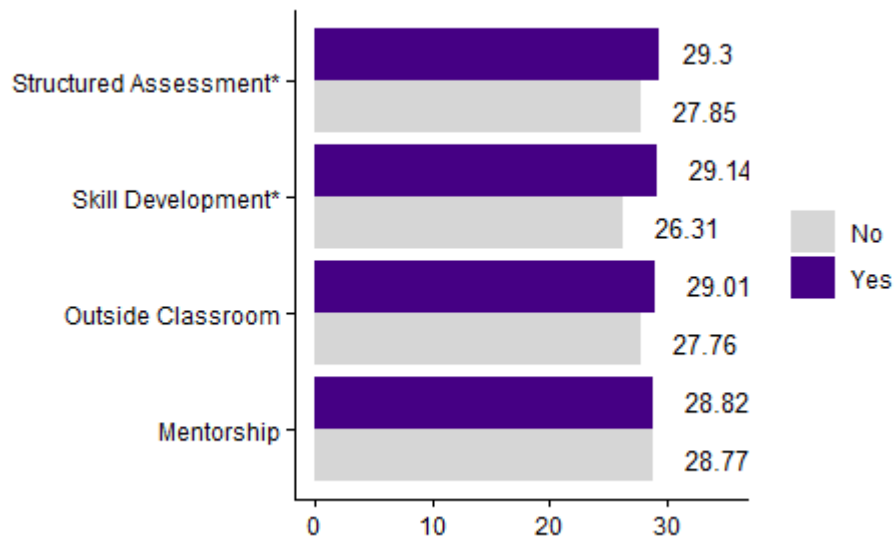
influence career readiness perceptions and information literacy.³ Data were analyzed with students (level 1) nested in majors (level 2), specifying major as a random intercept.

Detailed Findings

Career Readiness

In Model 1, with career readiness as the outcome variable, structured assessment and feedback ($\beta = 0.90$, 95% CI, 0.35, 1.51) and opportunities for skill development ($\beta = 2.18$, 95% CI, 1.30, 2.92) were positively associated with career readiness scores. See Figure 1. Additionally, students reporting mentorship during their first year had higher career readiness scores compared to students who did not report mentorship ($\beta = 1.19$, 95% CI, 0.33, 2.10). There was no association between WBLE tasks and career readiness scores.

Figure 1. Mean career readiness perception by WBLE elements (n = 1,401)

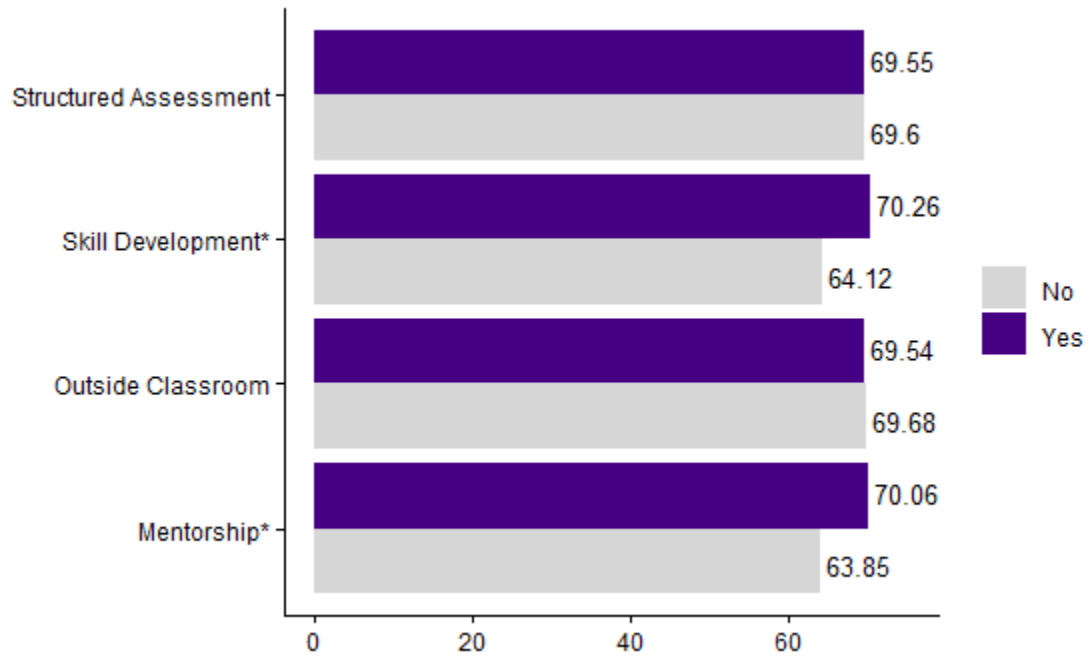


Information Literacy

In Model 2, with senior year information literacy as the outcome variable, having a designated mentor during the WBLE ($\beta = 4.19$, 95% CI, 1.72, 6.73) and opportunities for skill development ($\beta = 3.21$, 95% CI, 1.05, 5.43) were positively associated with information literacy.

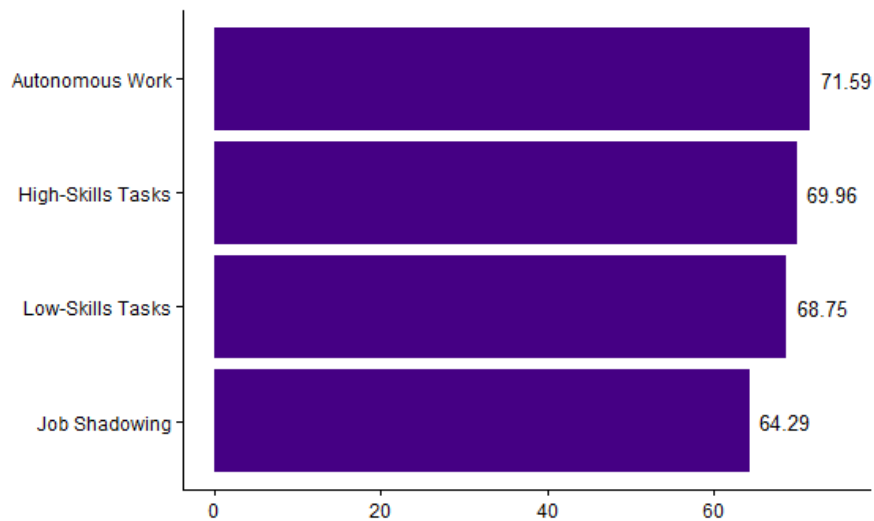
³ Weinmayr, G., Dreyhaupt, J., Jaensch, A., Forastiere, F., & Strachan, D. P. (2017). Multilevel regression modelling to investigate variation in disease prevalence across locations. *International Journal of Epidemiology*, 46(1), 336–347. <https://doi.org/10.1093/ije/dyw274>

Figure 2. Mean Senior Year InfoCore (%) by WBLE elements (n = 2,318)



Engaging in skilled tasks, including low-skilled tasks with supervision ($\beta = 3.56$, 95% CI, 1.14, 6.02) and high-skilled tasks with supervision ($\beta = 4.17$, 95% CI, 1.81, 6.54) as well as autonomous work ($\beta = 6.00$, 95% CI, 3.62, 8.53) were positively associated with information literacy compared students who primarily engaged in job shadowing. See Figure 3.

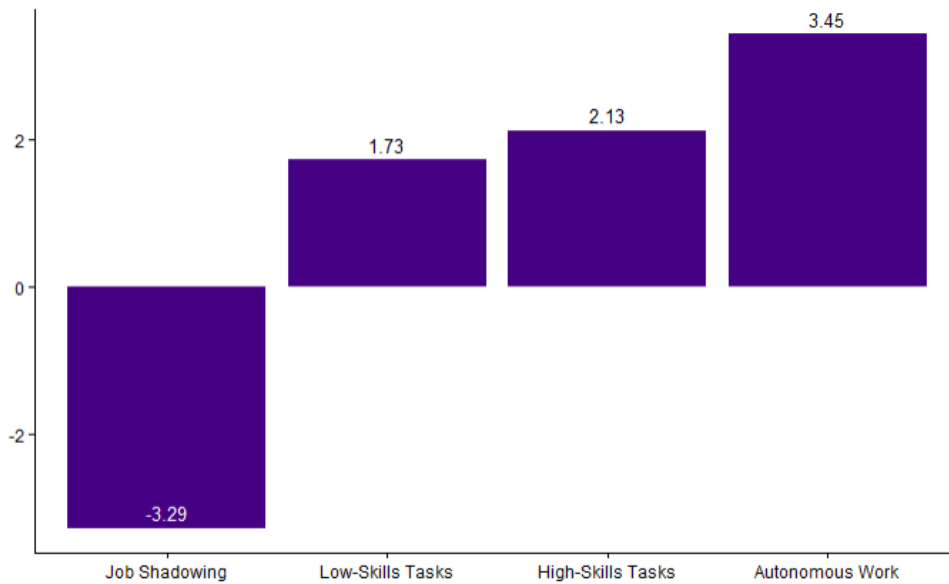
Figure 3. Mean Senior Year InforCore (%) by type of WBLE tasks (n = 2,318)



Cumulative GPA ($\beta = 3.89$, 95% CI, 2.94, 4.90) was also positively associated with information literacy score. Female students ($\beta = 4.06$, 95% CI, 2.73, 5.52), White students ($\beta = 2.37$, 95% CI, 0.85, 3.92) significantly higher scores than their counterparts.

In the final model with change in information literacy from freshman to senior year as the outcome variable, engaging in skilled tasks, including low-skilled tasks with supervision ($\beta = 4.54$, 95% CI, 1.47, 7.60) and high-skilled tasks with supervision ($\beta = 3.78$, 95% CI, 0.89, 6.67) as well as autonomous work ($\beta = 4.94$, 95% CI, 1.89, 7.99) were associated with increased scores. See figure 4.

Figure 4. Mean change in InfoCore (%) by types of WBLE tasks (n = 1,579)



Mentorship during a student's first year was also associated with increased scores ($\beta = 4.01$, 95% CI, 0.62, 7.40). Continuing generation students had less gains than first generation students ($\beta = -3.50$, 95% CI, -6.00, -1.00). Female students showed greater gains compared to male students ($\beta = 3.33$, 95% CI, 1.48, 5.18).