Work-Based Learning as a Pathway to Postsecondary and Career Success

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Historically, higher education and occupational training systems have been viewed as two separate pathways to employment. However, students need the same set of skills to succeed in college as they do in the workplace. Career and technical education (CTE) blends these two sets of skills and serves a pivotal role in preparing students for the competitive demands of the 21st century (Bragg & Hamm, 1996; Chernus & Fowler, 2010; OECD, 2010). Through the integration of academic training and rigorous occupational training, CTE serves as a pathway to postsecondary and career success (Department of Education, 2011; Rosenbaum, 2015).

Work-based learning (WBL) is a key example of the integration of academic and occupational training that is central to CTE and through which students have the ability to gain high-wage, high-skilled occupational experience while pursuing postsecondary credentials (Bragg, Dresser, & Smith, 2012; Chernus & Fowler 2010; Holzer & Lerman, 2014; Rayborn, 2015). Evidence suggests WBL has notable benefits for students, specifically students of color (Lerman, 2010). WBL reinforces the relevancy and authenticity of the learning experiences for students, engaging learners who prefer applied learning environments (Lerman, 2010). Moreover, WBL has been found to increase students' persistence, graduation, and employment rates, with notable gains for students from underserved racial, ethnic, and socioeconomic backgrounds (Holzer & Lerman, 2014; Kuh, 2008; Lerman, 2010; National Survey of Student Engagement, 2007). This brief provides an overview of WBL, including a broad definition of WBL in postsecondary education settings, the benefits of WBL, and key elements for implementing high-impact, high-quality WBL programs.

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HIGHLIGHTS

Through WBL, students acquire technical, academic, and employability skills.

The benefits of WBL are found to be greater for low-income, low-skilled, and racial and ethnic minority students.

WBL experiences prepare students for a productive, satisfying lifetime of continuous learning.

pathways to results

WBL Models

Through WBL, students acquire technical, academic, and employability skills by working in real work environments (Holzer & Lerman, 2014; Fuller Hamilton, 2014). Instructional staff, employers, and other stakeholders structure these programs by linking WBL to classroom learning. Postsecondary students who participate in WBL gain technical skills and typically are awarded college credit or industry-valued credentials necessary to enter high-demand fields (Bragg & Hamm, 1996).

Five Work-Based Learning Models Utilized in Postsecondary Education

APPRENTICESHIPS	Apprenticeships are contractual arrangements between private employers and workers in which students earn a salary during supervised on-the-job training and while engaging in related academic instruction (Holzer & Lerman, 2014; Lerman, 2010; U.S. Department of Labor, 2015).
CLINICAL PLACEMENTS	Clinical placements are worksite learning opportunities that occur in association with preparation for a credential in a professional field (Bragg & Hamm, 1996).
INTERNSHIPS	Internships are extended paid or unpaid worksite learning experiences in which students work with an employer to gain enriched learning experiences (Fuller Hamilton, 2015).
SCHOOL-BASED ENTERPRISES	School-based enterprises are small businesses created and operated by students that produce goods or offer services for purchase (Fuller Hamilton, 2015).
SERVICE LEARNING & COMMUNITY-BASED LEARNING	Service learning/community-based learning experiences are voluntary service activities in which students work with community-based organizations to gain experience applying the knowledge and skills gained through their academic work while making a contribution to their communities (Fuller Hamilton, 2015; Hoffman, Spada, & Fox, 2016).

Apprenticeships are the most intensive WBL model, as "these arrangements are particularly well suited to prepare young people for 'middle-skill' careers in sectors such as health care, advanced manufacturing, construction, and information services where labor demand will remain fairly strong over time" (Holzer & Lerman, 2014, p. 20). Apprenticeships typically last three to four years and require students to complete coursework that includes math as well as verbal and occupation-specific content (Holzer & Lerman, 2014; Lerman, 2010). Students in apprenticeships are viewed by employers as employees and are paid for their work (Alfeld, Charner, Johnson, & Watts, 2013; Holzer & Lerman, 2014). Upon completion students earn a recognized and valued credential (Lerman, 2010).

Clinical placements and internships are the most common forms of experiential learning. These experiences boost students' ability to think critically, apply practical skills, and work effectively with others (National Survey of Student Engagement, 2007). During internships, students are provided with direct experience in a work setting related to their career interests (Fox, 2014; Kuh, 2008). As with apprenticeships, students benefit from direct supervision and coaching from professionals in the field (Hart, 2013; Kuh, 2008). Clinical placements and internships can be paid or unpaid. Students typically receive course credit for completing the requirements of the clinical placement or internship, as well as any additional coursework required by their professor (Kuh, 2008).

School-based enterprise is a replication of a specific industry or business at the college (Alfeld et al., 2013; Darche, Nayar, & Bracco, 2009). Unlike with internships or apprenticeships, students learn to work in a business on campus (e.g., campus restaurant, bookstore, or video production studio) rather than an external work environment (Alfeld et al., 2013; Darche et al., 2009). Instead of employers, faculty serve as the mentors for school-based experiences. However, employers may be engaged to provide subject-matter expertise (Alfeld et al., 2013; Darche et al., 2009). School-based enterprises allow students to make direct links between their curriculum and work industry by providing students with opportunities to apply the academic and vocational content they have learned in class (Alfeld et al., 2013). Additionally, school-based enterprises provide students with opportunities to gain a range of skills, including the technical skills related to their field of study. Examples of skills students gain through school-based enterprises include entrepreneurship, accounting, budgeting, cash-flow management, marketing, inventory control, critical thinking, communication, and interpersonal skills (Alfeld et al., 2013; Darche et al., 2009).

Service learning experiences provide students with the opportunity to integrate meaningful community service activities in which they build their technical and professional skills, as well as a sense of civic engagement (Hoffman et al., 2016). Students engaged in service learning benefit by gaining professional real-world experiences, developing project management skills, learning about business practices, and engaging in reflection and self-assessment activities (Hoffman et al., 2016; Kuh, 2008). Service learning experiences can be framed similarly to other WBL experiences, with the additional purpose of illustrating to students "that giving something back to the community is an important college outcome, and that working with community partners is good preparation for citizenship, work, and life" (Kuh, 2008, p. 11).

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Benefits of WBL

Through WBL students gain the soft and hard skills necessary to be successful in both college and career settings (OECD, 2010). Participation in WBL gives students the opportunity to build transferrable workplace skills and practices, including attention to detail, dedication and consistent attendance, the ability to learn from knowledgeable colleagues, and the processes involved in developing mastery of complex material (Hart Research Associates, 2013; Lerman, 2010; Rogers-Chapman & Darling-Hammond, 2013; Stasz & Stern, 1998). Additionally, WBL experiences help students improve their problem solving and critical thinking abilities; learn to efficiently allocate resources, including time management; and improve their communication with supervisors, colleagues, and clients (Hart Research Associates, 2013; Lerman, 2010). WBL experiences prepare students for a productive, satisfying lifetime of continuous learning. For instance, by the time apprentices graduate and become certified, they have acquired a heightened awareness of the requirements and commitments learning involves, and many will return to school to update or build on their existing skills. (Holzer & Lerman 2014; Lerman, 2010).

Students learn better when courses are taught in real-world contexts, when classroom learning connects to the workplace, and when abstract concepts of knowledge are linked to real-world problems (Churnus & Fowler, 2010; Holzer, 2015; Kuh, 2008; National Survey of Student Engagement, 2007; Rogers-Chapman & Darling-Hammond, 2013; Stasz & Stern, 1998). The real-world contexts of WBL provide students with experiences adapting what they have learned in the academic setting to reflect differing workplace resources (Hoffman et al., 2016; OECD, 2010). For example, students may need to adapt to a work environment that includes state-of-the-art equipment and practices; or students may need to adapt their skills and knowl,dge in an environment that utilizes out-of-date equipment and processes (Hoffman et al., 2016).

WBL helps students recognize the relevancy of their academic and occupational training, while providing students with real-life opportunities to apply newly acquired skills and knowledge (Alfeld et al., 2013). Students who participate in WBL experiences complete coursework at higher rates, have higher attendance rates, and have higher graduation rates than non-participants (Rogers-Chapman & Darling-Hammond, 2013). Additionally, students gain exposure to occupations and careers that might otherwise be unknown to them (Linked Learning Alliance, 2012; OECD, 2010). This exposure helps students define their career aspirations (Fox, 2014; Fuller Hamilton, 2015). This is especially impactful for students who lack exposure to or are unfamiliar with varied occupations and industries (Fox, 2014; Fuller Hamilton, 2014). Students with WBL experiences recognize the link between their academic preparation and their occupational interests and are more likely to commit to and complete their academic programs (Rogers-Chapman & Darling Hammond, 2013).

The benefits of WBL are found to be greater for low-income, low-skilled, and racial and ethnic minority students (Holzer & Lerman, 2014; Kuh, 2008). For example, first-generation students who participated in WBL have been found to have higher levels of engagement, grades, and persistence rates than those who did not participate. In particular, the benefits associated with apprenticeships can be greater for underserved student populations. This is in part because apprentices are paid a salary that often includes opportunities for wage progression as students gain mastery of new skills and demonstrate their value to the workplace. This allows apprentices to earn a living wage while pursuing an education (Lerman, 2010). Earning a salary while receiving training increases students' confidence (Holzer & Lerman, 2014). It also reinforces for students the relationship between their investment in skill development results

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and their income potential (Holzer & Lerman, 2014).This is important for underserved students (e.g., students who are low-income, racial/ethnic minorities, veterans, or formerly incarcerated). Underserved students are often unable to afford participation in unpaid internships yet are seeking the high-skills training necessary to obtain family-wage employment. Moreover, apprenticeships are also particularly beneficial for low-income students and students of color in terms of increased persistence rates and occupational identity (Holzer & Lerman, 2014). However, despite the benefits associated with WBL for underserved students, a lower percentage of these students are engaged in WBL (National Survey of Student Engagement, 2007).

The work-related skills and attitudes students develop during WBL experiences are highly valued by employers. In a 2015 survey for the Association of American Colleges and Universities, 80% of the employers surveyed indicated they gave hiring preference to college graduates who have demonstrated the ability to apply learning in real-world settings (Hart Research Associates, 2015). Additionally, employers indicated that written and oral communications, teamwork, ethical decision-making, and critical thinking are skills they highly value among their employees (Hart Research Associations, 2015). Further, employers reported evaluating potential employees based on their competencies in these skill areas (Hart Research Associates, 2015). Employers endorsed applied learning experiences, indicating these experiences better prepare graduates for career success (Hart Research Associates, 2015). Specifically, employers endorsed service learning, internships, undergraduate research, capstone projects, and experiences with diversity as being the most promising in skill development and preparing students to graduate and succeed in the workplace (Hart Research Associates, 2015).

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Overall, WBL allows students to demonstrate their ability to apply their knowledge and skills in real-world settings. These experiences help students develop a sense of social responsibility, as well as intellectual, technical, and workplace skills that increase their labor market value (Hart Research Associates, 2013). Students who participate in WBL are more engaged in their academic programs and more active in their career planning (Fox, 2014; Fuller Hamilton, 2015). They also have better learning outcomes and are more likely to persist in and complete their academic programs (Rogers-Chapman & Darling Hammond, 2013). These benefits are more pronounced among underserved students, especially those who participate in apprenticeships (Holzer & Lerman, 2014). As a result, evidence suggests students who participate in WBL experiences are more likely to gain postsecondary credentials and labor market rewards in high-demand fields than students who do not participate in such experiences (Holzer & Lerman, 2014.

Implementing High-Quality WBL for High Impact

The National Survey of Student Engagement (2007) encourages colleges and universities to influence students' participation in at least two high-impact activities during the course of their undergraduate experience – one in the first year and one later in their studies. However, developing high-quality WBL programs in schools where students can gain the skills necessary for successful postsecondary completion and entry into middle-skill occupations requires well-structured, relevant, integrated curricula (Alfeld et al., 2013; Linked Learning Alliance, 2012; Rogers-Chapman & Darling-Hammond, 2013). Placing students in internships or pairing them with mentors and apprenticeships is not sufficient. "Successful work-based learning programs have a curriculum that includes goals for both students and employers and instruction from both academic and industry-related individuals" (Rogers-Chapman & Darling-Hammond, 2013, p. 5).

Implementing high-quality pedagogical strategies for WBL is challenging and requires extensive resources (OECD, 2010). Darche et al., (2009) assert that:

> "High-quality work-based learning requires that students have the opportunity to engage meaningfully with the experiences offered and to reflect thoughtfully on their learning. It requires educators to link experiences to the classroom and to work closely with employers and communities to ensure that students understand the standards to which they will be held as adults in the working world. Organizational structures and resources, teacher preparation, and employer engagement strategies must all be aligned to facilitate this form of high-quality teaching" (p. 27).

Included in the resources necessary to successfully implement WBL are resources for coordination of the program and student support resources, including materials and transportation as appropriate (Alfeld et al., 2013). A key role of the coordination of these programs is the strategic engagement of employers, communities, community-based organizations, secondary and postsecondary institutions, and workforce partners necessary to implement, maintain, and scale WBL opportunities (Darche et al., 2009). In addition, these resources and coordination support leadership and advocacy for systemic and policy changes often needed to create local WBL opportunities that foster continuous learning for students (Darche et al., 2009).

Quality WBL pedagogy should be designed to maximize impact on student outcomes. Specifically, it should improve students' career awareness, career exploration, career preparation, and career training (Linked Learning Alliance, 2012). WBL needs to include opportunities for student reflection and should culminate in a specific activity, projects, or other means by which the student can demonstrate their learning (Alfeld et al., 2013). WBL pedagogy should include explicit learning objectives developed collaboratively by faculty and employers and support students' personal interests and career aspirations (Alfeld et al., 2013; Fox, 2014; OECD, 2010). The outcomes of the WBL experiences should be monitored and evaluated, and adjustments should be made as warranted to meet the objectives set. Linked Learning Alliance (2012) developed evaluation criteria for designing and accessing WBL pedagogy by student outcomes. These criteria are published in their report *Work-Based Learning in Linked Learning: Definitions, Outcomes, and Quality Criteria*.

Conclusion

WBL is a critical component of the applied and engaged learning central to quality CTE programs. This brief provides five models of WBL that when integrated into CTE programs can have notable benefits to students' learning and other academic outcomes. WBL engages students in lifelong learning, and fosters students' transitions along their career pathways. The specific WBL experiences embedded into a program, needs to reflect the objectives of the program, the context of the program, and resources available. Regardless of the model used there needs to be a strong alignment between academic learning and workplace learning, and the WBL experiences should improve students' career awareness, career exploration, career preparation, and career training. While WBL supports learning for all students, it is particularly important for low-income students and students of color. As such, WBL also serves as an important strategy for CTE programs fostering educational equity for all students.

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